DOCUMENT RESUME

ED 088 393 HE 005 290

AUTHOR	Fenske, Robert H.; Scott, Craig S.
TITLE	The Changing Profile of College Students. ERIC/Higher Education Research Report No. 10, 1973.
INSTITUTION	ERIC Clearinghouse on Higher Education, Washington, D.C.
SPONS AGENCY	American Association for Higher Education, Washington, D.C.
PUB DATE	73
NOTE	84p.
AVAILABLE FROM	Publications Department, American Association for Higher Education, One Dupont Circle, Washington, D.C. 20036 ($2.00)
EDRS PRICE	MF-$0.75 HC-$4.20
DESCRIPTORS	*College Students; *Enrollment Trends; *Higher Education; Literature Reviews; *Student Characteristics; *Student Enrollment

ABSTRACT

This report reviews recent literature concerning enrollment trends in higher education and also presents the results of a recently completed extensive survey of student characteristics. In general, there is a declining rate of enrollment, while at the same time diversity among students is on the increase. This study should be of value to those concerned with the immediate problems in higher education and also should serve as a benchmark for evaluating future studies of enrollment trends. (MJM)

The Changing Profile of College Students

Robert H. Fenske and
Craig S. Scott

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

1973

10

ED 088393
HE 005 290

$2

ED 088393

The Changing Profile of College Students

Robert H. Fenske and
Craig S. Scott

ERIC/Higher Education
Research Report No. 10
1973

Prepared by the
ERIC Clearinghouse
on Higher Education
The George Washington University
Washington, D. C.

Published by
the American Association
for Higher Education
One Dupont Circle, Suite 780
Washington, D. C. 20036

This publication was prepared pursuant to a contract with the National Institute of Education, U. S. Department of Health, Education and Welfare. Contractors undertaking such projects under government sponsorship are encouraged to express freely their judgment in professional and technical matters. Prior to publication, the manuscript was submitted to the American Association for Higher Education for critical review and determination of professional competence. This publication has met such standards. Points of view or opinions do not, therefore, necessarily represent official views or opinions of either the American Association for Higher Education or the National Institute of Education.

Foreword

This report reviews recent literature concerning enrollment trends in higher education and also presents the results of a recently completed extensive survey of student characteristics. In general, there is a declining rate of enrollment, while at the same time diversity among students is on the increase. This study should be of value to those concerned with the immediate problems in higher education and also should serve as a benchmark for evaluating future studies of enrollment trends. At the time this monograph was prepared, Robert H. Fenske was Senior Research Psychologist and Director, Research Institute at The American College Testing Program, Iowa City. He is presently Professor of Education and Director, Center for the Study of Higher Education, Arizona State University, Tempe. Craig S. Scott is Assistant Research Professor in the Teaching Research Division of the Oregon State System of Higher Education, Monmouth.

Carl J. Lange, Director
ERIC/Higher Education

Already Published in the Series

1. Women's Studies: Courses and Programs for Higher Education
   Lora H. Robinson
2. Productivity: Burden of Success
   William Toombs
3. University-City Relations: From Coexistence to Cooperation
   Bernard H. Ross
4. The Integration of Learning and Earning: Cooperative Education and Nontraditional Study
   K. Patricia Cross
5. Comparative Higher Education
   Philip G. Altbach
6. Goals for Higher Education: Definitions and Discussions
   David A. Trivett
7. Student Discipline Systems in Higher Education
   Stanford Cazier
8. Employment of Nontenured Faculty: Some Implications of *Roth* and *Sindermann*
   Carol Herrnstadt Shulman
9. Urban Internships in Higher Education
   Donald G. Zauderer

To subscribe to the complete series of reports (10 issues), write to the Publications Department, American Association for Higher Education, One Dupont Circle, Suite 780, Washington, D. C. 20036. The subscription rate for AAHE members is $12; for nonmembers $18. Single issues are available at $2 per copy.

Contents

Overview 1
Introduction 3
Objectives of the Study 3
Review of the Literature 5
Background 5
Aspirations for College 7
Accessibility of Colleges 8
Public versus Private College Students 9
Two-Year versus Four-Year College Students 11
Barriers to College Access 12
Open Admissions 13
Inequities in Accessibility to College by Race 14
Inequities in Accessibility to College by Sex 14
Older Students 15
The Need for Improvement of College Programs 16
ACE Freshman Surveys 16
Statewide Surveys 17
Other Studies 22
Sample and Methodology 24
Data Source 24
Description of Sample 25
Limitations of Sample 26
Methodology 27
Findings 28
High School Grade-Point Average 29
ACT Composite Score 30
Level of Educational Aspiration 31
Housing While Attending College 35
Planning Participation in Extracurricular Activities 36
Racial/Ethnic Background 36
Family Income 37
College Choice Factors 38
Special Educational Needs 39
Need for Financial Aid 39
Years Out of High School 40
Proportion of Females Enrolled 41
Summary 44

Contents

Bibliography 51
Appendix A: Number of Students in Sample 57
Appendix B: Alphabetical List of Institutions in the Sample (N = 290) 58
Appendix C: Supplementary Tables 67

Tables

1. High School Grade-Point Average (1968-1972) 29
2. ACT Composite Scores 30
3. Level of Aspiration, Males Only 32
4. Level of Aspiration, Females Only 33
5. Percentages of Females in the Sample 42
C-1. Type of Housing Anticipated, Males Only 67
C-2. Type of Housing Anticipated, Females Only 68
C-3. Planned Extracurricular Activities by Sex, Year, Institutional Type, and Type of Control 69
C-4. Racial/Ethnic Background of Males by Year, Institutional Type, and Type of Control 70
C-5. Racial/Ethnic Background of Females by Year, Institutional Type, and Type of Control 71
C-6. Family Income, Males and Females 72
C-7. Major Considerations Given to College Choice Factors by Year, Institutional Type, and Type of Control, Males and Females Combined 73
C-8. Special Educational Needs by Institutional Type, Males and Females 74
C-9. Need for Financial Aid, Males Only 75
C-10. Need for Financial Aid, Females Only 76
C-11. Years Out of High School, Males and Females 77

Overview

This study examines the new trends in student enrollments through a review of current research literature and analysis of the characteristics of students in a national sample of over half a million students during a recent five-year period. The current leveling-off and new projections of imminent declines in new enrollments are noted in the extensive literature review. The review also covers the factors apparently related to the new enrollment trend. Evidently the declining enrollment growth rate is due to a decrease in the percentage of white middle- and upper-class youth (especially males) who enroll in college immediately after high school graduation. This raises the interesting possibility that American higher education may have to deal simultaneously with the problems associated with declining enrollments (and income) *and* an increasing diversity in academic interest, abilities, and expectations of new students.

The data analyzed for this study were drawn from the student records of well over half a million college freshmen who enrolled in 290 colleges and universities in 41 states at the beginning of the 1968-69, 1970-71, and 1972-73 academic years.

The findings indicated that the proportion of women in the incoming freshman classes has increased significantly over the period studied (from 46.1 percent to 49.4 percent) and that the next few years may see the number of females exceeding the number of males for the first time in history. Since there are important differences between males and females in aspirations, on-campus residence arrangements, level of extracurricular activity, and patterns of financial aid, institutions will find this trend of considerable impact on fiscal and program planning.

Junior colleges were by far the fastest-growing segment of higher education in recent years; in fact, virtually all of the modest enrollment growth in the past three years is accounted for by growth at this level. These open door colleges also contribute most of the increase in the widening diversity of student characteristics, including academic ability and achievement, socioeconomic background, financial support, commuter versus on-campus living arrangements, extracurricular activities, and reasons for attending and selecting a college.

For each of the variables, the following trends are shown over the period of time studied: (1) High school grade-point averages showed a

general increase, but the ACT Composite Score showed a somewhat different pattern, increasing from 1968-70 then declining from 1970-72. These trends are seen to be consistent with increasingly relaxed grading standards in high school and decreased selectivity by colleges during this period. (2) Aspiration for both two-year degrees and doctorates increased, but there was a general decrease in aspiration for both master's and baccalaureate degrees. (3) Housing trends seem to indicate a shift away from on-campus residence to off-campus rooms and apartments. (4) Very sharp changes were shown in extracurricular activity, with highest levels shown in 1968, a very striking drop in 1970, and some recovery by 1972. (5) The overall trend in minority enrollment is for percentage increases for all minority groups studied. (6) The data for family income showed a generally higher average family income, with particularly marked increases in the higher income levels; there were also increases shown in the lowest income categories that may be due to the availability of financial aid for such students.

The implications of these data for higher education administrators and faculty indicate that an entirely unique set of challenges is emerging for the immediate future of higher education. These trends imply that more attention must be paid to the improvement of academic, service, research, and extracurricular programs to cope with increasing diversity of backgrounds and motivations of students at the same time that severe financial stress will oppress all levels of higher education.

The fiscal, social, and academic implications for higher education are most significant. Virtually all personnel in higher education will be affected: from custodial, counseling and security staff, to registrars, faculty, academic planners and administrators.

Introduction

These are unsettling times in American higher education. After three centuries of continuous growth and expansion, certain disturbing signs have appeared foretelling the end of growth and even the beginning of decline. Specifically, the signs have appeared in the area most critical to continued vitality, enrollment of new students.

A recent article contains the ominous revelation that college and university enrollment projections made as recently as 1971 by the prestigious Carnegie Commission on Higher Education and the federal government's National Center for Educational Statistics were being revised downward. The overall thrust of the revisions is that future college enrollments are now seen as falling far short of even these recent projections. The federal government's new projections showed that "637,000 fewer students are thought to have enrolled this fall than previously estimated. Five hundred seventy-eight thousand fewer students are expected to enroll next fall than previously estimated" (Watkins 1973). In 1971 the Carnegie Commission predicted a total enrollment of 13,015,000 for 1980. Two years later the Commission predicted a total enrollment of 11,466,000 for 1980. The net potential loss of 1,569,000 students may be multiplied by any of the familiar indicators, such as amount of tuition per student, number of faculty members, classrooms, and dormitory rooms, to forecast some rather dismaying consequences.

Even the prospect, much less the reality, of the end of expansion and the beginning of decline represents such a radical departure that many participants in higher education will find ways to ignore the forecasts. But enrollments in fall 1973 are expected to increase only 1.3 percent over the previous year, the lowest growth rate since the dip caused by massive military service drafts of World War II.

Objectives of the Study

The major purpose of this study is to investigate and report on recent changes in the background characteristics and attributes of students entering American colleges and universities. The need for this study arises from the lack of timely data on the effects of open admissions, nonresident student policy changes, the constantly increasing diversity of background and attributes of students, removal of the draft as a possible influence on college enrollment, and other recent events.

There are two main uses for the information provided in this study. First, these findings can be applied to issue- or problem-oriented concerns so that college administrators, faculty, governing boards, and legislators can deal with the emerging problems of changing enrollments and student diversity; and, in a sense, this is also a planning orientation that simply seeks to provide more information about students so that new and improved programs can be developed to better serve them. Second, these data also have a purely research or normative utility in that they provide trend data and benchmarks against which future change can be measured.

This report focuses only on the "traditional" segment of higher education—those colleges and universities (with walls) that offer academic programs that lead to or grant baccalaureate and advanced degrees. This delimitation was made in the interest of coherence and coverage of a complex and dynamic subject, not in deference to any elitist views of higher (post-secondary) education. We favor and are keenly aware of the increasing recognition given to the many alternative forms of postsecondary education, such as area vocational schools, adult education programs, technical institutes, private trade, technical and business schools (both profit and nonprofit), industry-sponsored programs, and others. We suspect that the decline in enrollments in "traditional" institutions is partly the consequence of rapid growth in enrollments in other types of programs.

Review of the Literature

Background

The United States has been conditioned by the climate of growth to expect more of the same; for higher education ". . . has experienced steady enrollment increases at a rate faster than the expansion of American society generally. Over the past century, in particular, enrollments in higher education have doubled regularly every 14 to 15 years" (Ashby 1971, p. 4). The rate of growth has been spectacular since World War II. Before then, college was restricted to those who could afford it. Immediately following the war, the GI Bill was a type of "open admissions" categorical scholarship plan that opened wide the doors of colleges and universities. The Project Talent approach of the 1950s concentrated on identifying the most "able" high school graduates for scholarship aid, under the assumption that they were the best bet for college success. The Sputnik scare in the late 1950s resulted in the National Defense Education Act of 1958, which provided support for many undergraduate and graduate students, especially those in the sciences. The 1960s saw the widespread acceptance of the belief that the great majority of the "college age" population should have access to some form of postsecondary education. The Higher Education Act of 1965 extended access further by loans and grants to large numbers of minority students. The education amendments of 1972 are intended to expand this program. This country has, since World War II, come to embrace the notion that higher education is not only for an economic or even intellectual elite, but for all who can profit by it.

In a recent paper, Lyman Glenny indicated that American higher education passed a major turning point in its history of development sometime during the last two or three years without realizing it.

> Higher educational administrators and even a few faculty members know that the environment for, and the impingements on, higher education began to change in 1969, and have been accelerating since then. Most of those who recognize the current problems (a relatively few of the higher education community), seem to reject the idea that we are in anything but a temporary condition. Their rose-colored glasses do not apprise them of the less than rosy trends so clearly developing in finance, in college attendance, and in the numbers of young people to be educated. The major trends with which we must be concerned in the immediate and distant future will have profound influence on the whole system of postsecondary education, severely crippling the aspirations of some faculties and administration . . . (Glenny 1973).

Among the trends to be considered, two are particularly pertinent to the present study of recent trends and characteristics of students entering American colleges and universities. One is the apparent decline of college attendance among the type of youth whose academic and socioeconomic background formerly predisposed them almost automatically to plan to enroll in college immediately after high school (Carnegie Commission on Higher Education 1971; Peterson 1972). The second and concomitant trend is the increasing diversity of academic and socioeconomic background characteristics among those who *do* enroll as first-time freshmen, for it seems clear that the modest growth in freshman enrollments is comprised of a "new breed" of students (see Cross 1971).

> The annual influx of new freshman into the nation's colleges appears to be leveling off. There was essentially no difference in the total number of freshman admitted by institutions established as of the fall of 1970. What increase there was in the number of first-time freshmen throughout the total system can be attributed mainly to the opening of new colleges—mostly public junior colleges—in the fall of 1971 (Peterson 1972).

As will be discussed in more detail below, students in such colleges are much more diverse in ability and background than those in traditional colleges. These trends raise an interesting question: can we have a concomitant leveling or decline in enrollment *and* an increasing diversity in the characteristics of students entering colleges and universities? There are many such interesting questions shrouded in the rapidly-changing situation.

This section reviews some of the more notable research efforts that in recent years have dealt with the characteristics of students entering American colleges and universities.

The assessment of change in student background characteristics or attributes is not an easy task. When one considers the vast numbers of individuals involved in the target populations and their wide geographical dispersion, the problems of data collection, synthesis, and dissemination become more apparent. As a result of these difficulties the majority of investigations are done on a local basis using quite limited funds and whatever data bases are available. Reports of studies of this type are not widely distributed. Both limited funds and data generalizability are factors here. The dearth of timely data on student characteristics has resulted largely from these restrictive conditions. A frequently offered remedy has been to advocate studies of a larger and more comprehensive scale. However, unavoidable costs in terms of available facilities, research personnel, and budgeting have made studies of this type largely impractical.

Aspirations for College

The aspirations of American youth for postsecondary education have changed dramatically over the past several decades. In general, aspirations for continuing education beyond the high school level have been raised. Aspiration levels were often substantially different between the various races and between individuals from different socioeconomic levels.

> Between 1960 and 1966, a new trend started manifesting itself. The aspirations of the poor to a college degree began to catch up with those of the rich. Twice as high a proportion of high school seniors from the lowest income quartile hoped to attend college in 1966 as did in 1959. The increase was from 23% to 46%. The proportion of high school seniors from families in the second income quartile . . . who expected to enroll in college rose from 40% in 1959 to 52% in 1966. The desire to attend college grew more modestly in the upper two income quartiles (Froomkin 1970, p. 2).

Jaffe and Adams (Froomkin 1970) analyzed educational attainment of Americans between 1880 and 1950 and found that higher education enrollment was directly proportional to the number of high school graduates. Roughly five out of ten white male high school graduates were likely to enroll in some postsecondary institution; the ratio was four in ten for white females. This ratio held fairly constant with only minor variations from 1880 through 1950. Since 1950, the opening up of higher education resulted in a significant shift in these ratios. Enrollments in the mid-1960s indicate that "six out of ten males are likely to enroll in some postsecondary institution in the late 1960's." These researchers also found that ". . . the aspirations by income group had changed significantly between 1959 and 1965. While college enrollment intentions between 1939 and 1959 increased equally for all income groups, in 1965 the children of poorer parents planned to attend college at twice the rate of 1959, while college attendance intentions of the children of the rich increased only 6%." These data depict ". . . a revolution in expectations which is likely to democratize participation in higher education" (p. 14).

There is some evidence to suggest that aspiration for degrees has leveled off in recent years, at least among those who are enrolled as freshmen: "College freshmen in 1970 did *not* aspire to higher degrees than their predecessors. Their degree plans were remarkably similar to those of freshmen entering in 1966. Of the entering freshmen in 1970, 36.6% planned to stop at the BA or BS degree as compared to 39.0% in 1966" (Astin and Bisconti 1972).

The antecedents and correlates of aspiration for postsecondary edu-

cation are difficult to identify and isolate. In one of a noted series of studies, Sewell and Shah (1968) studied a statewide class of high school seniors in Wisconsin and found that the factors of socioeconomic status, intelligence, and parental encouragement are all related independently to college plans of males and of females. Apparently neither intelligence nor parental encouragement can completely account for social class differences in college plans. These researchers also found that parental encouragement intervenes strongly between socioeconomic class backgrounds and intelligence of the child and his aspirations. Parental encouragement appears to have its strongest effect on the college plans of males and females who score relatively high on intelligence and come from families with high socioeconomic status.

In another study based on the same data, Sewell and Shah (1967) found that both socioeconomic status and intelligence have direct effects on planning on college, college attendance, and college graduation. However, for both males and females the relative effects of socioeconomic status on college plans and attainment were less than the effect of intelligence. Relating community of residence to college plans, Sewell found that

> with each increase in community size category, the percentage of students with college plans increases, ranging from 21.5% for those from farms to 42.4% for those from large cities. Intelligence and socioeconomic status explain most of the differences among girls in this sample, but other factors are needed to account completely for the residential differences in college plans of boys (Sewell 1964, p. 24).

He found that there was a significant failure of academically able rural boys to plan on college.

Pavalko and Bishop (1966) found that the relationship of socioeconomic background to college plans among Canadian youth was similar to that in studies dealing with American high school students.

Accessibility of Colleges

Trent (Department of Health, Education, and Welfare 1970) noted that the determination to enter college is ". . . not generally a spontaneous decision. Rather, it is the result of numerous complex factors that have occurred over a long period of time. . . ." Trent also highlighted the importance of external factors influencing college-going, such as accessibility and financial barriers.

> In 1968, according to a recent study by the Bureau of the Census, a family with an income over $15,000 and with one or more college-age (18 to 24) children is five times as likely to include a full-time college student as a

similar family with an income under $3,000. This underrepresentation of relatively lower-income families becomes progressively worse as the level of education progresses into graduate studies. Another study estimates that, after allowing for ability differentials, the number of college graduates would have increased by 50% in a recent year (1965) if entrance and completion rates throughout the income range had equaled those in the top one-fifth on the basis of socioeconomic status (Carnegie Commission on Higher Education 1970, p. 2).

In addition to reducing or eliminating financial barriers, another means of expanding access to higher education is in the form of additional numbers of easily accessible public two-year institutions that have been established in large numbers in nearly all states as well as expanded enrollment opportunities in publi four-year colleges and universities. In general, it was the public institutions that responded to the pervasive social pressure of the 1950s and 1960s that dictated a collegiate education was a basic requirement for a job with a future. Without regard for interest or personal motivation, many students entered college for strictly certification purposes. Since most private institutions could not or would not expand rapidly enough to accommodate vastly larger numbers of students, the publicly-supported institutions started to draw an increasingly larger percentage of the total student population. It is enlightening to recall that as recently as 1950 private institutions enrolled more students than public institutions. By 1972 public institution enrollments approached figures over twice as large as private college enrollments. Peterson (1972) found that while public institutions were experiencing a marked decline in annual enrollment gain in recent years, the private sector had stopped growing altogether.

Public versus Private College Students

There are relatively few studies that directly compare private versus public college students. Medsker and Trent (1972) found only small differences in ability and high school performance among private and public junior college students. However, they found substantial differences in other factors such as education level achieved by the student's fathers, religious affiliation, mean scores on Omnibus Personality Inventory scales, and other factors. Medsker and Tillery (1971) reporting the SCOPE project found there were substantial differences in socioeconomic and intellectual predisposition factors. However, they stressed that it would be preferable to examine data from different types of junior colleges separately since they vary among themselves and in the clientele they serve—e.g., private nondenomina-

tional versus private denominational junior colleges. The same caveat would also apply to four-year colleges and universities.

The type of students attracted by postsecondary institutions and the type of institutions selected by high school seniors have a significant impact on the student mix at any particular institution or type of institution. Medsker and Trent (1972) discussed measures of student ability and measures of socioeconomic background as they relate to type of college attended.

> Of the graduates attending private universities, by far the largest percentage came from the top-ability quintile. Next in order to selectivity were the private 4- or 5-year colleges, and after them the public universities. On the other hand, the multiple nature and "open door" policy of the 2-year public college are manifested by the spread of ability among its students. It is noteworthy, however, that a fourth of its students came from the top quintile. The state colleges and the extension centers each drew from student ability levels in about the same way (pp. 41-42).

Generally, the ability level of the students attending private institutions was higher than for public institutions—i.e., private institutions had higher proportions of students from the top two quintiles than did public institutions. Trent and Medsker also found monotonic increases in the proportions of high-ability public and private students by type or level of institution from two-year institutions to doctoral granting universities. The association was stronger for students attending private universities than for students attending public institutions. In a recent review, Trent (1970) noted that the distribution of nearly all relevant background factors differs among types of colleges—e.g., universities with graduate schools versus junior colleges.

In general, the greatest single factor in increasing access to higher education is the recent mushrooming of numbers of public two-year colleges. Cross (Department of Health, Education, and Welfare 1970) discussed the role of the junior college in the increasing universality of postsecondary education. She emphasized the importance, as shown by research, of the removal of geographic, financial, and other barriers in college attendance. She found that to a large extent the junior college sector was growing more rapidly than other parts of higher education due to its success in removing these barriers to students who would not otherwise have attended more traditional types of institutions. However, she also reported that the high degree of success of junior colleges in the removal of geographic and financial barriers has been tempered somewhat by the continuation of lower than average proportions of minority groups and women who seek higher education.

Two-Year versus Four-Year College Students

In an extensive review of the available literature, McClung (1970) found that "research comparing the academic abilities of junior college students to their 4-year college counterparts has usually found the junior college student less able" (p. 81). For example, Seashore (1959) noted that about three-fourths of his sample of senior college students scored higher than the junior college median on scholastic aptitude tests. Similar differences were reported by Raines (1968) and [illegible] (1968) who also reviewed research comparing junior and senior college students on noncognitive variables and found differences on nearly every variable studied. Compared with their senior college counterparts, junior college students rated themselves less academically able, with considerably less confidence in their mathematical, writing skill, and leadership ability. Junior college students were seen to have taken part in cultural activities to a lesser extent and also perceived their environment as less intellectual and lacking in pressure to make good grades compared to senior colleges. In terms of background characteristics, these researchers pointed out junior college students generally ranked below senior college students on such socioeconomic variables as mother's and father's education, number of books in the home, etc. Consistent with these findings, Medsker and Trent (1972) comparing ability and high school rank found striking differences between students entering two-year versus four-year colleges. For example, 25 percent of students entering colleges ranked in the top 20 percent of academic ability compared with 65 percent entering private universities and 46 percent entering public universities. Differences of a similar magnitude were recorded for high school rank in this sample.

In an empirical study of the heterogeneity/homogeneity of certain personality measures among junior college students versus senior college students, Cohen and Brawer (1970) found that junior college students were more homogeneous than senior college students on the Omnibus Personality Inventory and on the Adaptive-Flexibility Inventory. This finding indicates that while junior college students come from much more diverse backgrounds of ability and socioeconomic status, they seem to be more similar in terms of personality measures than four-year college students. Wisgoski (1971) found that many junior college students aspired to an unrealistically high level of educational achievement. "Many studies have shown that a majority of the college freshmen in all ranges of ability and prior achievement expressed their intentions to work for a baccalaureate degree. Seventy-

five percent of all students enrolled in public junior colleges label themselves as transfer students, but only one-third actually enroll in senior colleges and universities." He noted that this discrepancy is often due to lack of financial resources, indecision, and poor social adjustment.

Bushnell (1973) reported on the American Association of Junior and Community Colleges' Project Focus, which gathered a wealth of data from a national sample of 92 junior colleges. He concluded that

> public and private 2-year colleges do not serve the same constituencies as 4-year colleges and universities. The backgrounds and characteristics that shaped the interests, career goals, and values of community junior colleges are diverse, and there is heavy emphasis on the disadvantaged, the minority, and the home-based students. While these characteristics cannot be changed during a student's college career, they do serve as appropriate background information upon which faculty and administrators can build their strategies for helping students learn (p. 11).

Barriers to College Access

Ferrin (1971) identified four basic categories of barriers to access of higher education: finances, academic, motivation, and geography.

> Many efforts to eliminate or even reduce the conditions restricting certain individuals from taking advantage of higher education have tended wisely to attack multiple barriers simultaneously. Architects of these proposals have recognized that to concentrate on only one would certainly be ineffective if the other three continue to restrict accessibility.

Ferrin found national indicators of increased accessibility of higher education that included: (1) the increase in the number of all institutions from 1,890 in 1958 to 2,596 in 1968; (2) the proportion of freshmen attending public two-year colleges doubled from 20 percent to 40 percent in these same ten years; (3) the number of free-access colleges, almost all of them public, increased from 538 in 1958 to 789 in 1968; (4) where 30 percent of the population lived within commuting distance of a free-access college in 1958, 42 percent did in 1968; and (5) coverage increased significantly in communities of all sizes, except in metropolitan areas with a population of one-half to one million and in rural counties of less than 20,000 (p. 59).

Ferrin believes that "junior colleges particularly have attempted to attack the financial barrier by charging little or no tuition, the academic barrier by having "open-door" admissions policies, and the geographic barrier by locating in densely populated areas" (p. 6).

Open Admissions

Another form of expanding accessibility is to open wider the doors of existing institutions by allowing "open admissions." This represents a new shift of emphasis and approaches a zenith in the view of higher education's service to its constituencies. Borow (1969) commented on the shift of the burden of success from the student to the college. Previously, it was accepted that if the student failed to qualify for the various admission criteria and if he failed after being admitted, it was essentially his fault. There were objective and immutable standards of excellence against which the student was measured and either succeeded or failed. An essentially opposite view is now emerging, particularly with regard to the public institutions. It is the institutions that must fit their offerings to the needs of the students. Higher education must become "relevant" and "meaningful." Borow also warned of the pitfalls:

> Yet if we are to heed the mountain of previous research on the antecedents of college success and failure, and we ignore such findings only at a potentially fearful price, we must, under existing circumstances, be prepared for abject failure among many of those recruited for higher education from the depersonalizing ghettos and reservations, remote rural locales, and Appalachia-type villages and towns (p. 5).

Newcomb (1970) voiced a similar warning, stating somewhat satirically that institutions moving toward open admissions may be underestimating the extent of the problems. "We have nothing to lose except our present practices and educational program, staffing, and institutional organization—together with our present system of allocating funds" (p. 2).

Open admissions is relatively new as a matter of operational policy; thus, while there have been a number of publications dealing with policy aspects (see, for example, Rever 1971), there has been little in the way of empirical research. Rossman (1972) conducted a survey of seniors in two of the eight City University of New York colleges along with three other large public PhD granting institutions. The two New York campuses had held fairly strict admission standards in 1967 but had moved markedly toward open admissions by the 1970-71 academic year. One of the other large institutions had had an open admissions policy throughout the years 1957-61. The other two institutions had held high admissions throughout the four-year period. Thus, the sample consisted of seniors in institutions which (a) had always held high standards; (b) had always held open admissions standards; and (c) had held high admissions standards but had

moved to open admissions during the period studied. It was found that seniors in open admissions institutions felt that they or some of their friends may have benefited from the policy and were more likely to view open admissions positively than would their peers in more selective institutions. The two New York institutions had large percentages of seniors who were ambivalent toward the situation; however, it was pointed out that this was a period of great turmoil about the issue of open admission.

Inequities in Accessibility to College by Race

Despite, the equalizing effects of widening access to higher education,

> gross inequities in college attendance still exist among various categories of young people, with the low-income, nonwhite individual bearing the brunt of this unequal distribution of educational resources. For example, in a 1969 study of enrollments at 80 of the most prominent state universities in the United States, black students, on the average, represented only 2% of the student population. In no institution was the proportion of blacks as high as 12% (the figure for the proportion of blacks in the national population) (Egerton 1969).

Bayer and Boruch (1969) conducted a study comparing black and white freshmen and found that "black students are more likely to be women; they also are likely to be older students from low-income urban families and with below-average aptitude test scores. They have high educational aspirations in spite of these limitations and more often choose to enter business fields, teaching, the social sciences, or health-related specialties" (pp. 384-385). They found a significantly lower average aptitude test score by blacks compared with whites. "However, the 'survival rate' of black students appears to be exceptional. In light of the relatively low test scores and other factors, particularly low socioeconomic backgrounds, the attrition of black students is relatively low" (p. 385).

The potential for frustration would seem to be very high for blacks in view of the disadvantages of low aptitude test scores and limited finances since "compared to all freshmen, black students were highly ambitious and sought to achieve a wide variety of goals, including entrepreneurial goals, materialistic goals, being an authority in a special field, helping others in difficulty, and obtaining recognition from peers" (Astin and Bisconti 1972, p. 5).

Inequities in Accessibility to College by Sex

The gains made recently by blacks are matched in many respects by the expanding role of women who enroll in colleges and universities.

Peterson (1972) found that growing proportions of women and students from minority groups were enrolled as students in 1971 compared with earlier years. The percentage of women students was found to increase in all of the types of institutions surveyed and at all levels: "As of the fall of 1971, in the total higher education system (as indicated by the present sample), women account for: 41% of the total enrollment; 44% of the undergraduate enrollment; 46% of the part-time undergraduate enrollment; 46% of the first-time freshman; 35% of the graduate enrollment; and 36% of the first-time graduate students" (p. 5).

Astin and Bisconti (1972) found that while considerable gains have been made:

> Women have generally aspired to lower degree levels than men. While they are becoming increasingly interested in pursuing graduate-level work, they have far to go to bridge the gap between the sexes. The proportions of women seeking PhD's increased from 6.0% to 7.9% between 1966 and 1970; however, 15.6% of the male freshmen aspired to the PhD in 1970. Furthermore, in 1970 only 3.9% of the women, compared to 15.2% of the men, hoped to obtain professional degrees (MD, LLB, etc.) (p. 5).

In a study of career education students in two-year colleges, Garbin and Vaughn (1971) reported that on direct comparison of the high school grade averages of females and males, "females appear to be clearly superior to males in the sample" (pp. 68-70). This finding corresponds to reports by The American College Testing Program (1971, 1972) regarding their 1970 CPP National Norm Group's high school grade distributions. In every case, regardless of the subject area involved (i.e., English, math, social studies, natural sciences, business, or vocational), and regardless of the norms used (i.e., general norms, age 25 and older, part-time students, or Afro-American/Black), female students consistently reported higher grades than did males.

Summarizing his findings on recent changes in educational aspiration in the national student body, Peterson stated:

> . . . it is clear that *women* in great numbers are breaking out of the roles they have presumably been socialized into. At almost every point in the higher education system where enrollment is gaining, a larger gain is being made by women than by men. Women want careers; they want them in fields that in the past have been almost exclusively male territory—law, medicine, architecture, financial sciences, engineering, forestry. And the consequences for the social order can be nothing but salutary (p. 31).

Older Students

Attention has recently been focused on better serving older adults in institutions of higher education. While rhetoric on such programs

abounds in all segments of higher education, it seems that the two-year colleges have been most active in enrolling and providing programs for them.

Bushnell (1973) found that

> Full-time students at community and junior colleges were older than their 4-year college peers. Of the entering freshmen participating in the Project Focus survey, 25% reported that they were 21 years of age or older, while only 7% reported this in 1967. While the age distribution in the 4-year institutions has continued to fall predominantly in the 18-to-20 year-old bracket, the enrollment of older students in the 2-year colleges has risen steadily (p. 19).

The Need for Improvement of College Programs

With all of the attention being focused on changes in characteristics of incoming students and their numbers, there is a real danger that insufficient attention will be given to their education once they are enrolled. The Committee on the Student in Higher Education (1968) recommended that the quality of human relationships be improved in colleges. The Committee indicated that it was more important to be concerned with the quality of the educational programs provided for students than concerned about their background characteristics or about their aptitudes. They maintained that this is true not only for students from traditional types of backgrounds but also for the "new students."

> The quality of relationships in higher education therefore must be improved not simply because it will enable students to spend happy and more fulfilling years in college or because many of the present conditions in higher education are intolerable, but primarily because unless trends toward giantism and dehumanization are reversed, the college will not be able to educate even the technician. The argument for development education is, in the last analysis, that even technicians cannot be trained unless it is recognized that they are something more than functionary—that they are also human beings, and as such they can perform effectively only when their basic emotional needs are fulfilled" (p. 58).

ACE Freshman Surveys

The empirical study reported in the following sections is similar in many respects to the annual freshman surveys conducted since 1966 by the research staff of the American Council on Education (ACE). While there are many similarities that allow for considerable cross-validation, the differences are more important and indicate that the present survey and the ACE surveys comprise complementary sets of student data.

The information collected by ACE covers a wide variety of informa-

tion. Data on the following topics are included in each of the annual freshman surveys: educational plans and aspirations, interests, achievements, values, preferences, skills, and trait self-ratings. Biographical and demographic items are also included. Many of the data files containing this information are available for use by individual institutional or other educational researchers.

While a great deal of information is gathered by these surveys, one important limitation commonly ascribed to the reports is that the questionnaires used to collect the data at times are administered in ways that make the results not entirely representative of the entering freshmen being examined. Some questionnaires are administered at the institution by institutional personnel, while at other colleges the questionnaires simply are given to students at enrollment time to fill out at some later date. In some cases students are required to fill out the questionnaires, and in other cases students are informed of the availability of the questionnaires and asked to fill them out on a purely voluntary basis. There is a wide variance among participating colleges in the proportion of the freshman class that ultimately completes a usable questionnaire in this survey. A standard practice in the reporting of these data by ACE staff is to use weighting methods to counteract the disproportionate sampling that occurs, and to correct for nonresponse of students within any given college. By using these methods a useful normative account of college freshman population characteristics is available. These reports have been extremely useful in tracing trends since 1966.

Most of the early studies sampled approximated 15 percent of higher education institutions nationwide. The sample has been gradually increased to include over 500 institutions in the 1972 sample, largely four-year colleges and universities with graduate programs.

In the ACE research reports data are presented for a variety of different cohorts. For example, data are reported separately for men, women, and for all students in a variety of cross-tabulation presentations. Many of the variables covered in the present report for freshmen enrolling in the fall of 1968, 1970, or 1972, are contained somewhere within the ACE normative reports for the same academic years. The reader is invited to examine and compare the ACE survey findings with those presented in the following sections (American Council on Education 1968, 1970, 1972).

Statewide Surveys

It was previously mentioned that many of the recent studies of student characteristics have been conducted at the state and institutional

level. The following studies are examples of these types of investigations. They generally have had the primary purpose of providing decisionmaking information or data to their institution's administration, or to their state's legislative bodies or controlling boards.

Florida—The research staff of the Florida Board of Regents has been active in conducting surveys of characteristics of students entering Florida colleges (1970, 1971a, 1971b). Data from these surveys were reported separately for students in public and private colleges and universities in Florida. The instrument used in each of the investigations consisted of a total of 19 items. Information on institutions previously attended by transfer students and on the major fields of all students was also collected. Included among the topics covered by the questionnaire were college choice factors, plans for graduate school, areas where help would be needed, family income, need for family financial support, level of parental education, and type of activities engaged in immediately after high school. The bulk of each of the three reports cited is made up of distributions of responses to a 19-item questionnaire for various groups of individuals. Included among the subgroups were race, sex, and age. For students attending public universities in fall 1970, 20.1 percent indicated that the most important college choice factor for them was the availability of a strong program in their intended major field of study. The next most popular reasons were close proximity to home (18.6 percent), academic reputation (14.9 percent), and campus/social environment (14.1 percent). Corresponding percents for private university students ranked similarly except for the fact that campus/social environment and academic reputation received higher ratings (25.6 percent and 17.5 percent, respectively). Over 50 percent of the sampled public and private university students in Florida indicated that they would probably continue their education into either graduate or professional school. The private university students generally had a slightly higher level of family income than did the public university students. Finally, most (80.6 percent) of the private university students entered directly from high school. Of those responding from public institutions 29.2 percent transferred from two-year institutions while the proportion of transfers from two-year institutions in the private universities was much less (4.2 percent).

The Board of Regents of the State of Florida and Florida State Department of Education have jointly sponsored several surveys of students entering the state's public two-year colleges (1970, 1971). Included among the topics covered by the 22-item questionnaire were

parental need for family financial support, junior college choice factors, type of activities engaged in immediately after high school, areas where help probably would be needed, and plans for further education. Annual income for 48.6 percent of the students' families were between $7,000 and $14,999 with 25.2 percent above this interval. The single most important college choice factor was that the institution was located in close proximity to the student's home (29.9 percent cited this as the most important factor). Low cost was the most important factor indicated by 18.8 percent of these junior college students, while probable success was cited by 14.8 percent of the responders. Of the entering students, 72.2 percent entered directly from high school while 10.4 percent had worked one or more years between the time they had left high school and the time they had entered their present junior college. Plans to eventually enroll in a senior college or university were made by 86.7 percent of these students. About half (49.3 percent) of them anticipated continuing their education beyond the bachelor's degree. The 1969 data for junior colleges yielded results that were essentially the same as those reported here for 1970.

For the Florida population of high school seniors, "the percent of students planning to enter college on a full-time or part-time basis decreased from 57.4 percent in 1969 to 51.3 percent in 1971" (Florida Board of Regents 1973, p. 10). This decrease was attributed to a decline in the percent of white seniors who stated it was their intention to enter some form of postsecondary education. Proportions of black seniors with postsecondary intentions remained nearly constant over the four-year period examined.

Several factors were cited as contributing to the reversal in the enrollment trend: (a) increasing costs to students, (b) end of the military draft, and (c) declining job market for college graduates. Concurrent with the downward enrollment trend was an increase in percentages of graduating seniors who were undecided about their post-high school plans. Also, during this period more noncollege-bound students indicated they were "not interested" in going to college; such students increasingly planned to work full-time directly after high school.

California—The California Coordinating Council for Higher Education conducted a statewide survey of high school seniors in May 1967 to investigate post-high school plans (1969). The Council found that nearly 92 percent of the highest ability group (the top one-eighth in high school rank) planned to go on to college (this ranking qualifies graduates for admission to the University system). Of those who

ranked below the top one-eighth and above the top two-thirds (thus eligible to attend a state college), 83 percent planned to attend college. Slightly over half of the remaining two-thirds of the high school class (57 percent) reported plans to enroll in college in the following academic year. Other salient findings were:

> Today nearly all high school graduates of higher demonstrated ability are entering higher education. Increases in the college-going rate in the years ahead will result from expansion of the proportions of middle- and lower-academic ability students engaging in post-high school training. Expansion of the college going rate thus will bring greater numbers of students on campus with poorer academic records and greater financial need (California Coordinating Council for Higher Education 1969, p. 11).

> At the present time it is estimated that some 60% of the high school graduating class in California enters some 2- or 4-year college in the year following graduation (California Coordinating Council for Higher Education 1969, p. 12).

These researchers questioned whether the college-going rate could be expected to increase much more since the state was already almost completely blanketed by "open-access" institutions of higher education. The findings were interpreted to mean

> . . . that public institutions will probably be receiving greater numbers of lower income, culturally diverse, and, often, more poorly prepared students as college-going increases in the years ahead. The characteristics of the changing group of students will probably require adjustments in both program and form of higher education to a much greater extent than resulted from the increased numbers in higher education during the late 1940's and the 1950's. The full impact of changing patterns of attendance is being felt by the open-door community college, at least by the highly selective college and university and/or the high cost institution (California Coordinating Council for Higher Education 1969, p. 12).

New York—In a recent report by the research staff of the Board of Trustees for the State University of New York (1972), it was stated that a recent change had been detected in the pattern of admissions and applications to the various institutions comprising the SUNY system. It was found that freshman applications were growing at a decreasing rate (1971-72 applications were only 8 percent more than in 1970-71 compared with a 20 percent increase from 1967-68 to 1968-69) and that the pattern of growth of the various segments of public higher education was also changing:

> For example, in 1968-69 our agricultural and technical colleges accounted for only 6% of our overall growth rate; community colleges, 26%; 4-year colleges, 41%; and our university centers, 27%. In 1971-72, however, our agricultural and technical colleges accounted for 32% of our overall

growth; community colleges, 25%; 4-year colleges, 29%; and our university centers, 13%. Although comparative data is not available for previous years, it is of interest to note that presently, our 2-year colleges account for 60% of our growth in freshman applications (pp. 2-3).

In terms of academic ability of applicants to the system, the New York staff researchers came to much the same conclusion as the researchers for the California Coordinating Council; namely, that little growth in the rate of college attendance was expected from the pool of potential applicants who were of high academic ability; future growth was expected from those of middle- or lower-academic ability.

Wisconsin—A statewide survey of spring 1968 Wisconsin high school seniors was conducted under the auspices of the Wisconsin Coordinating Council for Higher Education (Lins 1969). The survey results included the following salient findings: "64.5% (65.7% of the men and 63.3% of the women) expected to attend a postsecondary institution" (p. ix). "There is a greater tendency for women than for men to attend a Wisconsin private college—12.6% as compared with 5.9%" (p. ix). "There appears to be a significant loss of talent in terms of postsecondary attendance; 14.2% of the seniors in the top quarter and 21.0% of the seniors in the top half of their high school classes did not expect to attend a postsecondary institution in the fall of 1968" (p. x). "Expectations of earning a bachelor's or higher degree appear higher than what can be expected; 45.7% of the seniors hoped to earn a bachelor's or higher degree but past research would indicate that probably no more than 32% will" (p. xi). "About two out of every three seniors considered the course offerings of the institution to be an important reason for attending the college of their choice" (p. xii). "More than one out of every three (37.1% of the respondents) expected to commute to a postsecondary institution; 61% did not and 1.6% were undecided" (p. xii).

Minnesota—The research staff of the Minnesota Higher Education Coordinating Commission examined a wide variety of data available through the various testing programs to determine the patterns of student charactertistics entering Minnesota colleges. Studies were conducted of the entering classes in 1968, 1969, and 1970 (Minnesota Higher Education Coordinating Commission 1970, 1971a, 1971b). Since a major source of the data was information furnished by students who took the ACT Assessment, the data naturally corresponds closely to those reported in the following sections that deal with the national sample; therefore, the findings will not be commented upon separately in this section.

Idaho—The post-graduation plans of Idaho's high school seniors also have been studied (Lingren and Eyre 1972). The report emphasizes the plans of seniors who stated that they expected to enroll in either in-state, or out-of-state colleges or universities. Topics covered in the study include both the actual intentions regarding post-high school education and various college choice factors. This report is the first of what is intended to be a series of reports dealing with institutional as well as curricular intentions of Idaho's college-bound high school seniors. One of the salient conclusions was:

> The percentage of seniors intending to enter a formal education or training program was two points higher in 1971 than in 1967. Intentions to enroll in private business and trade schools declined by nearly 50 percent during this four year period. This attrition did not necessarily signify changes in curricular preferences away from vocational, trade or business programs. Instead it may have reflected a preference among students to pursue such programs at colleges and universities, and especially at the two-year and four-year public colleges (p. 10).

Indiana—Lisack (1970) reported the results of a survey of Indiana's high school senior class of 1969. Sixty-one percent of a total of 76,000 questionnaries were satisfactorily completed and returned. However, nonresponse on some of the individual items was very high: nonresponse to financial aid items was approximately 40 percent; for "location" as a factor in college choice, 36 percent failed to respond. A total of 42.6 percent of the respondents planned to continue their education immediately after high school on a full-time basis. Twenty percent planned to continue their education on a parti-time basis immediately after completing high school. The most frequently indicated college choice factor related to the availability of the program of study that was desired. With regard to level of educational aspiration, 38 percent of the respondents indicated that "they were considering graduate or professional training after their undergraduate college work" (p. 33). This implies that two-thirds of the seniors who responded that they planned undergraduate studies also indicated they planned some form of graduate or professional training.

Other Studies

In preparation for this report, the authors requested and received data and research reports concerning student characteristics from a wide variety of colleges, universities, and institutional systems. The appreciation of the authors and of the ERIC Clearinghouse on Higher Education is extended to the individual researchers and to their institutions who so willingly provided the results of their research as a basis for preparation of this report.

Many of the researchers and institutional officers who provided these materials indicated that they could not allow the findings to be identified with the institution, but were happy to provide the information as basic material for our report. Other institutions authorized us to identify the findings with their particular institutions. In reviewing the array of information thus provided, we found it uninformative and distracting to present the findings of these reports in a manner that would identify some of the institutions by name and others by a pseudonym such as "college x" or simply as "an unidentified institution." This is one of the two major reasons we have decided not to abstract these materials in the present report. The other reason is that as we examined the pertinent data from institutions and synthesized them with analogous statewide and national data, we found a correspondence in every major respect to the data aggregated at the state level (as was presented immediately above) and in the national studies such as USOE reports, the ACE annual freshman surveys, and our own empirical data recorded in the following section. Suffice it to say that the findings presented in the foregoing review of national and state surveys and in the following empirical data also correspond in terms of salient trends with the findings at the institutional level. There *are* major new departures in enrollment trends and student characteristics across the nation; no institution or set of institutions is exempt from them.

It seems clear then that much of the leveling off and even decline in student enrollment can be attributed to demographic factors such as smaller age cohorts and lower birthrate. However, it is also plain that smaller percentages of certain subgroups of the college-going age cohort are actually enrolling in college. In particular, the group of white males with background characteristics ordinarily associated with college-going are affected. There has been much speculation but little hard data about the extent to which the declining percentage of enrollments in this particular group may be accounted for by removal of the draft as a possible influence, by disenchantment with college as the accepted thing to do immediately after high school, by the much publicized but little-documented practice of 18 and 19 year olds working or traveling before their first-time enrollment in college, or by other factors.

Sample and Methodology

The data analyzed in this report are from a large national sample of first-time students enrolling in American colleges and universities. This sample has several useful features that lend particular significance to the findings. First, the sample is very large, totaling well over half a million students. Second, the data span a recent five-year period (1968-1972), a period that, as noted in the preceding sections, encompasses startling changes in American higher education. Third, the 290 colleges and universities included in this sample are the same for each of the three academic years studied (1968, 1970, and 1972), providing a stable base for examining trends and eliminating problems of interpretation associated with a shifting base of comparison from year to year. Fourth, a goodly number of institutions at all four major levels of postsecondary education are included: two-year (community or junior) colleges, baccalaureate-level colleges, institutions offering degrees through the master's, and universities offering doctoral and highest-level professional degrees. Fifth, both publicly-supported and private institutions are included. Sixth, each of the student records includes a number of relevant variables available nowhere else. Seventh, unlike most secondary data, these are quite relevant and nearly "custom made" for the analyses reported in the present monograph. This combination of features makes this sample unique among available national college student samples, including those generated by the Higher Education General Information Survey of the National Center for Educational Statistics and the annual freshman surveys of the American Council on Education. At this point it must be emphasized that the present sample is far from perfect and contains a number of shortcomings, principally those related to lack of representativeness in coverage. All of these features, both advantages and shortcomings, will be detailed in the remainder of this section.

Data Source

The data for this study were obtained during regular nationwide administrations of The American College Testing Program's ACT Assessment, a comprehensive program designed for use by students planning to enter a college, a university, or a two-year college. The Assessment each year is used by approximately a million students attending more than 2,000 post-high school educational institutions in

the United States and numerous foreign countries. The Assessment is composed of five parts: four standardized tests and a short biographical inventory called the Student Profile Section (SPS). The SPS asks prospective college students about their home backgrounds, educational plans, grades achieved in high school, goals in attending college, and interests and achievements in out-of-class areas. The student records used in this study were drawn from ACT Class Profile tapes containing information furnished by high school seniors who took the Assessment during the 1967-68, 1969-70, and 1971-72 test years (a test year is comprised of the 12 months following each August 1). These tapes comprise a data bank that lists all of the students who took the Assessment during a given test year and who subsequently were certified by registrars or admissions offices as enrolled the following fall at one of the colleges designated by the student. Thus, these data comprise large national samples of students enrolling as first-time freshman in fall 1968, fall 1970, and fall 1972. For this study, a total of 290 separate colleges and universities were selected on the following basis: (a) at least 50 percent of their entering freshman class took the Assessment as high school seniors the preceding school year (the average level of participation was 71 percent); (b) for all three of the years studied, the institution certified the students as having enrolled as full-time freshmen; (c) the group of institutions were generally representative of the national distribution of institutions by level of degree offered and type of control (public versus private), and were distributed widely across the country. The 290 institutions are listed in Appendix B.

Description of Sample

Appendix A contains a table listing the number of student records by sex, year, level of institution, and type of control. A total of 542,015 student records are included. Of these, 181,187 are from 1968 (158,037 in public institutions and 23,150 in private), 189,555 are from 1970 (165,375 public and 24,180 private), and 171,273 are from 1972 (147,133 public and 24,140 private). The 290 institutions include 73 two-year colleges (59 public and 14 private), 71 baccalaureate granting colleges (30 public and 41 private), 89 colleges and universities that granted the master's degree as well as the baccalaureate degree (70 public and 19 private), and 57 universities that offered doctoral degrees and highest professional degrees in addition to master's and baccalaureate degrees (50 public and 7 private). In all tables in the remainder of this report, these four types of institutions are referred to as Levels I, II, III, IV, respectively. The total number

of students in each of these four levels is as follows: (I) two-year colleges: 72,451; (II) four-year colleges: 49,406, (III) master's-level colleges: 195,627; and (IV) doctoral-level universities: 224,531; making a total of $542,015. Of this total, 283,361 are males and 258,654 are females.

Limitations of the Sample

There are several important limitations to the sample used in this study. As is evident from the numerical description of the sample, the private sector is somewhat, but not seriously, underrepresented. The geographic representation is not perfect by any means although institutions from 41 states are included. The New England and extreme Northwestern sections of the country are not represented equally with other sections.

Probably the most important limitation is that the student records include only incoming freshman who participated in the ACT Assessment Program. While in most cases the student records for each institution represent over two-thirds of the incoming freshman class (and in all cases at least 50 percent), there is no assurance that the remainder of each institution's freshman class is not unlike those represented in the present sample. For example, many of the larger and prestigious public Midwestern universities draw a substantial percentage of their out-of-state freshman from New England and Middle Atlantic region students who did not take the ACT Assessment. It is reasonable to suspect substantial differences between such students and the larger group of ACT-tested in-state students, since most Midwestern states charge a much higher tuition for out-of-state students and furthermore require higher academic achievement and aptitude measures. Such requirements would obviously result in different average family incomes, high school grades, and test scores between the two groups. We have reported such differences between college student interstate migrators and nonmigrators elsewhere (Fenske, Scott, and Carmody 1972). The situation just noted is probably the most severe skewing that is likely to occur for the student sample within any institution. For the majority of institutions that do not have heavy out-of-state freshman enrollment, or who do not require differential tuition or academic standards for such students, the biasing problem will not be severe.

Despite these shortcomings, we believe that the sample's redeeming features such as large size and stability over time outweigh its limitations. We do not view this sample as technically representative of the

nation's cohort of first-time enrolled freshman. An effort was made to select a sample that would reflect to the greatest extent possible a reasonably accurate and stable picture of recent trends in student characteristics from over 2,000 colleges and universities that participate in the ACT Assessment Program. We have chosen not to utilize weighting procedures to overcome the limitations of unrepresentation, although such procedures are commonly used in similar surveys (American Council on Education 1971). For purposes of this report, we have adopted the methodologically conservative position that such procedures are appropriate for true probability samples.

Methodology

All of the data are depicted as either percentages or mean values in tables that simultaneously control for sex, year, level of institution, and type of control. We have selected this method of data presentation over summary statistics, since interesting aspects of the distributions often are not revealed by the latter method.

We have not depicted results of tests of significance for any of the differences displayed in the tables, since we believe that, as was the case for sample weighting, such procedures are appropriate only for true probability samples. Furthermore, we know of no appropriate tests of significance that are insensitive to the extremely large numbers involved in this sample. In the case of differences among various subgroups in the public part of our sample, a standard test, such as that for differences among proportions, would show nearly all such differences as highly significant statistically. We have resisted the temptation to display large numbers of statistically significant differences on the grounds that statistics indicating departures from randomness are appropriate only for random samples. The practical significance of the trends and differences shown may be inferred by the reader. The extremely large sample size lends stability and credence to the findings.

Findings

Of the 542,015 students in the total sample, 283,361 are males and 258,654 are females. These are the base numbers for each of the percentage tables in this section and in Appendix C. Nonresponse is not a significant problem for any of the 12 variables presented in the tables. These data were obtained during monitored group testing situations in which each student was informed by the test supervisors present that his or her test score and SPS information could not be processed unless usable responses were made to each SPS item. In no case is the proportion of nonresponse greater than 2 percent of the above totals.

In all of the tables in this monograph, the data in the student records are aggregated by institution; institutional totals are, in turn, grouped into various categories. Class profiles for a single institution are shown nowhere in the present report—such data are regarded as totally confidential by The American College Testing Program and are released only upon written authority by a responsible institutional officer. It should be stressed that while means and percentages are shown by sub-subcategories (e.g., for females in Level I public colleges in 1968), even this degree of categorization encompasses considerable variance. Single institutions can and do vary greatly from the average value shown. Thus, the data shown should *not* be construed as necessarily typifying any one of the 290 institutions listed in Appendix B.

Each of the student records contains information on a wide variety of student characteristics. Included for consideration in the present study are 12 variables, which will be discussed in the following order: high school grade-point average; ACT Composite Score; level of educational aspiration; where the students expected to live while attending college; planned extracurricular activities; racial/ethnic background; family income; college choice factors; special educational needs; need for financial aid; number of years out of high school at the time of freshman enrollment; and proportion of females enrolled.

Each of the 12 variables will be analyzed by sex, level of institution, type of control, and over the period of time extending from fall 1968 through fall 1972.

High School Grade-Point Average

At the time of administration of the ACT Assessment, the student is asked to give the last letter grade that he earned by the end of his junior year in high school in social studies, English, mathematics, and natural sciences. In the student's ACT record, this letter grade is converted to a numeric grade. After conversion an "A" equals 4.00, a "B" equals 3.00, etc. A recent study by Maxey and Ormsby (1971) indicated that high school students' self-reports and out-of-class activities were accurate sources of information regardless of income level, sex, race, or class size. The correlations between self-reported grades and school-reported grades were found to range from .81 to .86. Table 1 shows the distribution of high school grade-point averages for males and females.

Table 1. High School Grade-Point Average (1968-1972)

Year	Institutional Type*	Public Schools		Private Schools	
		Male	Female	Male	Female
1968	I	2.25	2.58	2.43	2.66
	II	2.33	2.85	2.29	2.74
	III	2.49	2.82	2.53	2.94
	IV	2.68	2.93	2.86	3.02
1970	I	2.30	2.61	2.42	2.71
	II	2.37	2.73	2.36	2.76
	III	2.56	2.85	2.78	2.94
	IV	2.72	2.91	2.89	3.07
1972	I	2.44	2.70	2.53	2.76
	II	2.45	2.91	2.58	2.96
	III	2.65	2.94	2.63	3.02
	IV	2.80	3.03	2.99	3.22

*In this and in all remaining tables in this section, and in Appendix C, Roman numerals refer to type or level of institutions: I=two-year colleges offering programs leading to the baccalaureate degree; II=four-year colleges offering baccalaureate degrees; III=colleges and universities offering degrees through the master's; and IV=universities offering degrees through the doctorate and highest professional degrees.

Females have higher grade-point averages than males at every possible point of comparison within Table 1. The average difference is .30. The differences do not vary greatly by level, type of control, and over the period of time studied, ranging between .16 and .52 of a full letter grade. As might be expected, grade-point average is higher for each succeeding level of institution from two-

year college through doctoral granting universities in almost every instance for both males and females. A notable exception is for private two-year colleges where males have somewhat higher grade-point averages than males in private baccalaureate colleges. With few exceptions, this table also shows that grade-point averages are generally higher in private than public institutions for both males and females and for all levels of institutions. The trend shown over the period of time studied is for a general increase in grade-point average for both males and females. Although very general, the increases are quite uniform and of fairly small magnitude, less than the equivalent of one-half a letter grade.

From these data it cannot be determined if these increases over time are from relaxed grading standards in the high schools, increased self-selection of college applicants, higher admission requirements by the colleges, or some combination of these factors. However, it is surprising to note that even the "open-door" public two-year colleges show marked increases for both males and females.

ACT Composite Score

The ACT Composite Score is an unweighted average of the separate scores on the four tests that comprise the Assessment: English, mathematics, social studies and natural sciences. Table 2 shows the aggregate Composite Score for males and females for each subgroup of institutions categorized by level of institution and type of control. For institutional levels I, III, and IV males have higher scores in all but two cases. Females have higher ACT Composite

Table 2. ACT Composite Scores

Year	Institutional Type	Public Schools		Private Schools	
		Male	Female	Male	Female
1968	I	17.6	17.5	18.6	18.0
	II	17.8	19.3	18.5	19.1
	III	19.8	19.4	19.5	20.4
	IV	22.4	21.4	22.5	21.4
1970	I	18.4	17.8	19.0	18.8
	II	18.4	18.1	18.9	19.4
	III	20.5	19.8	21.6	20.4
	IV	22.6	21.2	22.6	21.9
1972	I	17.8	17.4	18.4	17.7
	II	17.6	18.4	19.6	20.2
	III	19.7	19.3	19.4	19.9
	IV	22.1	21.1	22.6	22.0

Scores in baccalaureate degree colleges in all but one instance. For the entire sample, the average score for males is 19.83; female average is 19.57. This general pattern is in contrast to that shown in Table 1. Taken together, these two tables show the usual pattern of females ranking higher in high school grade-point average but males generally ranking higher in test scores. Analysis of the subtest scores revealed the familiar pattern (not shown here) of higher test scores for females in English and social sciences and markedly higher scores for males in mathematics and natural sciences.

As was true for high school grade-point average, there is a general increase in average score by institutional level, from two-year level through doctoral university, for both males and females with few exceptions. Similarly, the average scores in private institutions are higher than public institutions for both males and females with but two exceptions for each sex. The average score for males in all public institutions is 19.55 compared with 20.10 for those in private institutions. For females, these scores are 19.22 and 19.93, respectively.

There is a slight decline in average score from 1968 to 1972, with about half of the categories recording an increase from 1968 to 1970, then a decline from 1970 to 1972 to a level somewhat lower than 1968. The single notable exception to this pattern is for private baccalaureate colleges (Level II), which show a 1.1 Composite Score increase from 1968 to 1972 for both males and females. We know of no obvious explanation for this pattern of change over this period of time. Increased selectivity during a period of growing enrollments could account for higher scores from 1968 to 1970; and the leveling off of enrollments from 1970 to 1972 is consistent with lower scores by 1972. However, the stable and even declining enrollment levels for private baccalaureate colleges (along with their well-publicized financial problems) are not consistent with these striking increases in scores.

Level of Educational Aspiration

The students were asked on the SPS to indicate the highest level of education they expected to complete from a list that included choices from a high school diploma to several choices of doctoral degrees. For this analysis those who indicated a high school diploma as their highest level of educational aspiration were excluded from the calculations. The excluded students constituted less than 2 percent of the total. Tables 3 and 4 show these data for males and females, respectively.

Table 3. Level of Aspiration, Males Only

Year	Institutional Type	Junior College Degree		Bachelor's Degree		Master's Degree		Doctoral Degree	
		Public	Private	Public	Private	Public	Private	Public	Private
1968	I	24.1	*14.8**	48.1	*43.1*	19.1	*20.6*	8.7	*21.5*
	II	9.7	*4.4*	56.8	*49.5*	22.2	*26.9*	11.4	*19.2*
	III	5.0	*2.2*	54.4	*38.7*	26.4	*29.6*	14.0	*29.9*
	IV	2.5	*.5*	45.6	*33.0*	31.1	*33.4*	20.7	*33.1*
1970	I	25.9	*15.4*	46.5	*38.0*	18.3	*23.5*	9.3	*23.2*
	II	10.7	*4.7*	54.6	*48.0*	21.9	*27.3*	12.8	*20.0*
	III	5.0	*2.8*	52.8	*35.6*	26.1	*27.2*	16.1	*34.4*
	IV	3.0	*2.4*	42.2	*29.4*	27.6	*30.6*	27.0	*37.6*
1972	I	28.7	*17.4*	43.8	*42.6*	16.5	*18.3*	12.5	*21.7*
	II	12.4	*4.5*	50.2	*46.0*	20.4	*23.8*	15.5	*25.7*
	III	4.9	*2.4*	51.2	*36.1*	22.8	*24.1*	21.1	*37.4*
	IV	3.9	*1.9*	42.4	*31.8*	25.2	*24.6*	28.4	*41.7*

*Percentages for private institutions are italicized to provide visual differentiation within the table. The row percentages for public and private institutions each sum to 100 percent within rounding error.

Table 4. Level of Aspiration, Females Only

Year	Institutional Type	Junior College Degree		Bachelor's Degree		Master's Degree		Doctoral Degree	
		Public	Private	Public	Private	Public	Private	Public	Private
1968	I	36.2	*34.0**	42.3	*45.5*	17.5	*16.6*	4.0	*3.9*
	II	10.3	*7.6*	60.1	*62.7*	24.2	*24.2*	6.4	*5.5*
	III	8.1	*4.4*	61.6	*61.3*	25.1	*26.9*	5.2	*7.4*
	IV	5.8	*3.9*	61.2	*62.2*	25.9	*26.1*	7.1	*7.8*
1970	I	40.2	*31.2*	39.2	*48.6*	16.6	*16.0*	4.0	*4.2*
	II	13.9	*10.2*	56.7	*60.4*	23.1	*22.1*	6.3	*7.3*
	III	10.4	*7.4*	60.0	*56.4*	23.7	*27.1*	6.0	*9.1*
	IV	8.6	*8.7*	58.4	*53.1*	25.1	*25.8*	7.8	*12.4*
1972	I	45.2	*38.7*	35.5	*42.1*	14.1	*15.4*	5.2	*3.6*
	II	18.2	*10.8*	53.4	*60.6*	19.7	*20.9*	8.7	*7.7*
	III	12.4	*8.2*	56.6	*57.4*	22.9	*23.1*	8.1	*11.3*
	IV	10.1	*9.7*	54.5	*58.1*	24.1	*22.6*	11.3	*9.7*

*Percentages for private institutions are italicized to provide visual differentiation within the table. The row percentages for public and private institutions each sum to 100 percent within rounding error.

There are very striking differences in level of educational aspiration between males and females. This difference is shown most dramatically in aspiration for a doctoral degree, and to a lesser extent for a master's degree. In every possible comparison, higher percentages of males than females aspired to these degrees, except for baccalaureate colleges (public) in 1970 and master's level public colleges in 1972. Conversely, more females than males in every case aspired to junior college degrees. As striking as these pre-enrollment differences in aspiration are, they nonetheless underestimate the even larger differences in aspiration between males and females that emerge during the college career. In an analysis of other national sample data in a four-year follow-up of college seniors, we noted that

> These data show that females who originally aimed very high were much more likely to lower their sights than were males. Unfortunately, the data did not show why they no longer aspired toward PhD or MD degrees. It is probable that no one answer applies; some may simply have had enough of school after 4 undergraduate years; others may have made their decision for reasons related to their status as women. The latter reasons may have included lack of financial support in cases where males would receive the required support, marrying males who needed the support of a working wife for their own graduate programs, a lack of adequate child care facilities, or discouragement from teachers and advisors about the prospects of females being able to succeed in PhD or MD programs and then competing successfully in the professions (The American College Testing Program 1972, pp. 14 and 15).

As might be expected, the level of aspiration is highly correlated with the level of institution in which the student is enrolled. The comparison of educational aspiration level between public and private colleges shows that for males percentages of the aspirants for master's and doctoral degrees are invariably higher in private institutions than in public institutions. However, for females there is no such consistency of pattern shown.

For both males and females, percentages of aspirants for junior college degrees are invariably higher in private institutions than public. However, for males only percentages of aspirants for baccalaureate degrees are invariably higher for private institutions than public. For females, this pattern is inconsistent. There is an increase in educational aspiration for two-year degrees for both males and females over the period of time studied. There is also an increase in educational aspiration for doctorates for both males and females. There is a general decrease in educational aspiration for baccalaureate degrees for both males and females in public institutions in every case. In private institutions aspiration for baccalaureate

degrees decreases from 1968 to 1970 but increases generally from 1970 to 1972.

Housing While Attending College

At the time the student participated in the ACT Assessment, he was asked to indicate where he expected to live while attending college. Three categories were offered as alternatives: (1) on-campus housing (dormitory, fraternity or sorority, married-student housing); (2) off-campus room or apartment; and (3) at home or with relatives. The distributions of expected housing for males and females are shown in Tables C-1 and C-2, respectively, in Appendix C. (NOTE: All but one of the remaining tables in this report are included in Appendix C.)

These data conform to stereotypic patterns of housing for males and females. More females than males expect to live on-campus in all but one case. Conversely, there are more males than females who expect to live off-campus in every case. Similarly, there are more males than females who expect to live at home with the sole exception of public and private two-year colleges in 1972. As would be expected, the greatest variation in housing plans are for public two-year colleges, which have the familiar pattern of commuter campuses, showing about two-thirds of the students living at home and only about one-fourth living on-campus. Apart from this exception, there is remarkable similarity among the other levels of institutions of percentages of students who plan to live on-campus. The greatest difference between males and females is in the greater percentage of males who plan to live off-campus than females. It is noteworthy that over the period of time studied, substantially larger percentages of females planned to live off-campus rather than in a dorm or at home; these percentages more than doubled for most levels of institutions.

These data again conform to institutional stereotypes in terms of housing arrangements for public versus private institutions. There are higher percentages of both males and females who expect to live on-campus in private institutions compared with public institutions at all levels. A converse pattern is true for those who expect to live at home. A peculiar pattern may be noted for off-campus housing expectations: for Levels I, II, and III, public institutions always show higher percentages, but the reverse is true for females in Level IV institutions for all three years studied. The general trend over the period of time studied is for a decline in percentage of both males and females who expect to live at home, with the only

exception being females in 1972. There is only a slight trend for decreased percentages of students who expect to live on campus for Levels II, III, and IV. The trend is for substantial increases in percentages of those who plan to live off-campus in practically all cases. This finding is consistent with well-publicized problems colleges have had in attaining full occupancy of dorms. Overall, this variable shows consistent trends but not large percentage differences among the three years studied.

Planned Participation in Extracurricular Activities

The SPS Section of the ACT Assessment asked each student whether or not he planned to participate in a list of extracurricular activities. Data analyzed for the present report included responses to this question for: (1) "writing for campus newspaper, yearbook, and so on"; and (2) "student government." Appendix Table C-3 shows the distribution of these responses.

These data show that larger percentages of females planned to participate in these extracurricular activities than males in most cases. Another general pattern shown is for lower percentages of students in Level I (two-year colleges) to plan participation than in any other level. This probably reflects the nonresident commuter emphasis of these institutions. Very little difference is shown among the percentages for the other three levels. In most cases, levels of participation are higher in private institutions than public.

In terms of trends over the period of time studied, the highest level of activity is shown in 1968 and the lowest in 1970. There is some increase in 1972 over 1970, but the increases are not sufficient to reach the 1968 level. The differences shown comprise a remarkable degree of change for this period of time, and probably are attributable to the wave of campus unrest and student alienation during this period. It should be noted that the form of the question and method of administration of the instrument used to gather these data did not change over the period of time. Also, it is worth repeating that these are exactly the same set of institutions over this five-year period. It can be assumed that the remarkable decline in planned participation in these activities is due to actual changes in outlook of these succeeding groups of incoming freshmen.

Racial/Ethnic Background

Beginning with the 1970 test year, students were asked in the SPS to indicate their racial/ethnic background. The percentages of responses for four minority groups of males and females are dis-

played in Appendix Tables C-4 and C-5, respectively. There are more black females than males in public institutions in both 1968 and 1970. There are no strong patterns of differences between percentages of males and females for the other three minority groups. Also, there is no strong trend or pattern of differences according to level of institution. There are higher percentages of blacks in public institutions than private institutions in all cases except for two-year colleges in 1970 for males. Again, there is no strong pattern of differences between public and private enrollments for the other three minority groups. In interpreting these changes, it should be noted that the span of time covered here is only from 1970 to 1972. The percentage of blacks nearly doubled for both males and females from 1970 to 1972. There is a very slight but general increase for American Indians, while for orientals there is a somewhat stronger tendency for increases. The percentages of Spanish-Americans enrolling nearly doubled over this time period. It is worth emphasizing that the overall trend is for increases over this period of time; in fact, there are no decreases in any case, with only a few instances showing stable percentages.

Family Income

Each student was also asked on the SPS to estimate his family's total annual income before taxes from a list of eight alternatives ranging from "less than $3,000 per year" to "$25,000 and over." Two additional options were "I consider this information confidential" and "I don't know." For purposes of the present analysis, responses to the last two options (about one-fifth of the total sample) were combined with those in the median category "$5,000 to $7,499." Appendix Table C-6 shows the distributions of family income data combined for males and females.

In the two highest income categories, there is a strong tendency for income level to increase by level of institution: in every case, the percentages of students with this relatively high level of family income are higher in master's and doctoral institutions than the percentages in two-year and baccalaureate colleges. In some cases, the differences are more than four times as large. For example, in 1968 only 2.6 percent of the students in private two-year institutions had family incomes of $20,000 or more compared with 11.9 percent of the students in doctoral level universities. The converse pattern is true for the lowest category of family income: Levels I and II have greater percentages of students with a family income of less than $3,000 than III and IV in all but one case.

As might be expected in view of the well known differences in out-of-pocket costs in attending private versus public colleges, the distribution of family income is substantially higher for students attending private institutions compared with those in public institutions. Over the period of time studied, the trend is for increases in annual family income from 1968 to 1970, and in most cases continuing into 1972, particularly in the two highest income categories. (This may be due to some extent to an inflationary factor.) In the lowest income category, the trend is for the highest percentages to be in 1968, with a decline in 1970, and a slight recovery in 1972. In the second lowest category, there is a strong trend for decreased percentages over time. The pattern in the two lowest income categories may be due to the availability of financial aid during this period for students from extremely low-income families.

These data provide a useful benchmark for future national trends related to the federal government's efforts to eliminate financial barriers through such programs as the Basic Educational Opportunity Grants.

College Choice Factors

The SPS listed a number of factors that might have had an influence on the student's choice of a college. The student was asked to indicate whether each factor was a "major consideration," a "minor consideration," or of "no importance" in influencing his choice of college. Of these, three were selected as variables believed to be important for the present study. Appendix Table C-7 shows only the percentages of students for each institutional subgroup who indicated that "major consideration" was given to "high scholastic standards," "low cost," and "campus tours" (note that campus tours was not a factor listed in the 1968 SPS).

There is a very strong and monotonic increase by level of institution for major consideration given to high scholastic standards in both public and private institutions. Campus tours are also of growing importance from 1970 to 1972. Conversely, percentages of students giving major consideration to "low cost" generally decreases by institutional level, with the highest percentages shown for two-year institutions.

Clear-cut differences are shown between private and public institutions in these college choice factors: (1) Private institutions invariably have higher percentages of students who give major consideration to high scholastic standards than public institutions. (2)

Private institutions also show higher percentages for campus tours in every case. (3) Conversely, the percentages of students citing low cost as a major consideration are always higher in public than in private institutions.

Over the period of time studied, the importance of high scholastic standards seems to have declined from 1968 to 1970, with some recovery from 1970 to 1972. The percentages indicating low cost as a major consideration show invariable increases in public institutions from 1968 through 1972. A similar trend is shown for low cost even in private institutions. The importance of campus tours as a major consideration in college choice increases consistently from 1970 to 1972 for both public and private institutions. This set of variables shows more monotonicity than any of the other variables included in the data.

Special Educational Needs

As part of the SPS section, each student was asked to indicate whether any of the list of 14 educational needs applied to him or not. Positive responses to two of these needs are given in Appendix Table C-8, namely, "choosing a major" and "improving writing skills."

More males than females indicated need for help in choosing a major in all cases for public institutions; but in about half the cases the opposite is true for private institutions. The same peculiar pattern of differences between males and females according to type of control of institution is shown for "improving writing skills." The authors have reported elsewhere the results of analyses of sex differences in selection of academic major (Carmody, Fenske, and Scott 1972; see also Scott, Fenske, and Maxey, forthcoming). There is very little difference among the levels of institutions in percentages of students indicating educational needs in either choosing a major or improving writing skills. There is a general increase in percentages of both males and females who indicate need for assistance in "choosing a major" over the period of time studied.

Need for Financial Aid

The data for Appendix Tables C-9 and C-10 are percentages of students who responded to the SPS question, "Do you expect to apply for financial aid to help meet college expenses?" The possible answers listed were "Yes, during my first year and probably thereafter," "Yes, but probably not during my first year," and "Probably not."

A comparison of Appendix Tables C-9 and C-10 show that higher percentages of females indicate need for financial aid all through college than males; conversely, more males than females indicated they would "never" need financial aid. However, more males than females stated that financial aid will be required for the last three years of college. These findings are consistent with those of other studies, which revealed that many times more males than females will own cars during their college careers (Carmody, Fenske, and Scott 1972); and that males (1) typically enter college with greater savings, (2) earn higher hourly wages while employed during college, (3) work more hours per week, and (4) work and save more during summer vacations (Stecklein, Fenske, and Huang 1967; Boyd and Fenske 1969). The baccalaureate level colleges show the highest percentages of need for financial aid all through college compared with the other level institutions for both males and females. This is more true for public than private institutions. Higher percentages of junior college transfer students show need for financial aid during the last three years of college in all but 1972 private institutions. A comparison of these responses by type of control indicates that more students in private institutions consistently indicate need for financial aid all through college compared with public institutions. In nearly all cases, higher percentages of students in public institutions indicate they will never need financial aid compared with those in private institutions.

Over the period of time studied there is a slight tendency for increases of those who need financial aid all through college. It will be interesting to see if this trend will accelerate in the near future if the substantial tuition increases become a reality, as recommended by such influential organizations as the Carnegie Commission on Higher Education (1973a) and the Committee for Economic Development (1973).

Years Out of High School

As part of the SPS, the student was asked whether or not he had been out of high school one or more years. Those who did not respond positively to this question were assumed to be enrolled in the fall immediately following their spring high school graduation and thus were categorized as "just out of high school." Appendix Table C-11 shows the distribution of these data.

As might be expected, in view of involvement in the military draft and voluntary enlistment in the armed services, higher per-

centages of males than females indicate that they have been out of high school at least one or more years. There is an inverse relationship between level of institution and the percentage of students indicating they have been out of high school at least one or more years, with markedly higher percentages for two-year colleges. This might also be anticipated from the well-known commitment of the two-year college to adult and continuing education. This relationship is stronger for males than females. Higher percentages of students in private institutions than public indicate that they are "just out of high school." However, strong differences are shown only for the two-year colleges. There is a slight tendency for percentages of students out of high school at least one or more years to increase from 1970 to 1972. Perhaps this trend will continue as colleges and universities become more interested in adult and continuing education.

Proportion of Females Enrolled

Throughout this section, a great deal of attention has been given to comparison of the distributions between men and women on the variables included in this study. A more basic comparison may also be of interest; namely, a study of the trends in the proportion of females enrolled by level of institution between public and private institutions over the period of time under consideration. The data allowing this comparison is contained in Table 5.

The basic trend indicated by Table 5 is one of net increase over the time period studied in the percentage of females in the entering freshman classes in all levels of both public and private institutions. While the absolute percentage increase in the total sample (46.1 to 49.4) is not great, it is well to recall that these are extremely large samples. The net percentage increase (3.3) represents over 5,000 women in the present sample; projected to the population, it represents tens of thousands more females entering college in 1972 than in 1968.

For both public and private institutions, three of the four levels show monotonic increases from 1968 to 1972. In the public sector, a very slight dip (.1 percent) is shown in baccalaureate colleges from 1968 to 1970; and in the private sector a more substantial decrease (1.6 percent) is shown for two-year colleges. The latter decrease may be attributable to many private junior colleges, which formerly had exclusively female students, who opened their enrollments to men during this period.

Table 5. Percentages of Females in the Sample

Year	Public					Private					Total Public and Private
	Level I	Level II	Level III	Level IV	Public Total	Level I	Level II	Level III	Level IV	Private Total	
1968	38.4	46.0	49.0	43.8	45.3	57.7	49.8	54.4	51.7	51.9	46.1
1970	41.3	45.9	51.5	44.6	46.8	56.1	52.5	57.5	52.7	53.8	47.7
1972	46.4	47.1	52.3	46.3	48.6	59.3	54.3	56.9	52.1	54.4	49.4
Average	42.1	46.3	50.8	44.9	46.8	57.8	52.2	56.3	52.2	53.4	47.7

By far the largest single increase from 1968 to 1972 is shown for public two-year colleges in which the percentage of females increased from 38.4 percent to 46.4 percent. In view of the increasingly large proportion of overall higher education enrollments contributed by junior colleges, this is a most significant locus for the largest increase among levels of institutions.

A more global extrapolation indicates that since the public sector is by far the larger and faster growing sector (both in this sample and in the population of institutions of higher education) these data indicate that the day may not be far off when female enrollments will approximate the proportion of females in the cohort of general college-age population. This would indicate a slightly larger proportion of females in entering freshman classes than males. If one extends this trend to the most logical college-going cohort, that of high school graduates each year, females would comprise 55 percent of the population entering college. These data provide interesting benchmarks on which to base observations of these trends.

Summary

Given the current uncertainties about continued growth and expansion of higher education, a study of student characteristics must also consider present enrollment trends as revealed in institutional, state, and national studies.

First, it must be granted that higher education is still expanding in terms of numbers of students, with an expected growth rate of 1.3 percent this academic year over last. The new elements in the situation are: (1) compared with the preceding two decades, the growth rate during the last two years had dropped unexpectedly and alarmingly, (2) enrollment projections for the next four to six years have been revised sharply downward, (3) the increases in the number of students that will occur are likely to be comprised of constituencies that are relatively new to traditional institutions of higher education —larger percentages of women, minorities, adults, etc.

What about the traditional constituency—the white, middle-class, academically able, and predominantly male student body that has always been the mainstay of each crop of freshmen? There is growing evidence that an increasing percentage of such youths are electing not to attend a college or university, at least not immediately after high school. Four reasons are usually cited in the current literature to account for this departure from the lock-step tradition: (1) the discontinuance of the enforced military draft; (2) the increasing social acceptance of the "stop-out," which encourages the students to work, travel, or engage in a variety of experiences after high school graduation and before enrolling in college; (3) the increasing social acceptance of training directly for a career, often in area vocational, technical institute, or proprietary school programs; and (4) somewhat related to the preceding, a hard and objective look at the costs of higher education as related to the probability of obtaining high-salaried careers after graduation.

All of this does not detract from the ascending and now predominant view that opportunity for higher education must be available to all who can profit from it; it is no longer the exclusive province of the academically highly able and/or economically affluent. (For several decades virtually nobody who had the means to pay for it has been denied admission to some college, even though the admitting college may not have been the first choice.)

Other trends were identified by examination of a large mass of research literature, much of which was comprised of institutional and statewide research reports obtained specifically for the present study. In general, aspirations increased most rapidly for groups who had not participated in higher education to a great extent before World War II—middle- and lower-income youth, blacks, and, in recent years, females. The antecedents and correlates of educational aspiration have been found to be academic ability, socioeconomic class background and proximity to college. Economic barriers to higher education for many of the "new students" have been lowered even as college costs have increased through the provision of additional numbers of easily accessible, public two-year colleges. In general, the public sector of higher education has provided most of the room for the dramatic expansion in numbers of students, with its enrollments doubling in size since 1950, compared with very modest growth rates (in the neighborhood of 20 percent) for the private sector over the same period. The private sector continues to serve more affluent students of somewhat higher academic ability.

In terms of diversity of student characteristics, junior colleges serve the entire range of student abilities and backgrounds, serving larger proportions of less academically able and lower-income students than senior colleges. Thus, public junior colleges have been exemplars of "open admissions," a concept that has been brought to the doors of many senior colleges in recent years. The burden of success seems to be shifting from the student to the college, in that the student no longer is expected to "prove" his potential for successful college work before being allowed to enroll (changing collegiate grading systems indicate he no longer even need "prove" his success as he progresses through the academic program); the college must now show it is relevant, meaningful, and, as indicated above, cost-effective, in the sense that completion of its programs will result in a desirable career.

In addition to the trends identified by examination of research literature, a large mass of empirical data on student characteristics was presented and analyzed in the preceding section. The data were drawn from the student records of well over half a million college freshmen who enrolled in 290 colleges and universities in 41 states at the beginning of the 1968-69, 1970-71, and 1972-73 academic years. The sample of institutions roughly corresponds to the distribution of American colleges and universities in terms of level (two-year and four-year colleges and universities with graduate programs) and type

of control (public versus private). The same 290 institutions were surveyed in each of the three years studied. The source of data on each student was pre-enrollment information provided during national administrations of The American College Testing Program's Assessment, including responses to a large number of biographical and background characteristics items included in the Student Profile Section administered as part of the Assessment.

In general, the findings were consistent with all of the currently discernible trends in student characteristics and enrollments. In addition, they illuminate several new aspects of such trends, since they were drawn from data not available elsewhere.

The data revealed that the proportion of women enrolling in higher education has grown significantly during the period studied, from 46.1 percent in fall 1968 to 49.4 percent in fall 1972. By far the largest single increase in proportion of women is shown for the fastest-growing level of higher education, the public two-year colleges, in which the percentage of females increased from 38.4 percent to 46.4 percent in this five-year period. This trend may well indicate that soon the number of females will exceed the number of males in American higher education for the first time in history.

In terms of differences between males and females on each of the variables studied, it was found that females had higher grade-point averages in high school, but somewhat lower ACT Composite scores than males; they had markedly lower educational aspirations than males, particularly for graduate and professional degrees; females expected to live in campus residences and planned to participate in extracurricular activities to a greater extent than males; among minority students, there were more black females than males but no strong patterns of differences between percentages of males and females for other minority groups; females generally indicated need for more financial aid through college than males; and more females than males enrolled in college immediately after high school.

In terms of distribution of the variables by level of institution, it was found that junior colleges were by far the fastest growing segment of higher education compared with the other three (baccalaureate-granting four-year colleges, master's degree-granting colleges, and doctoral universities). As might be expected, high school grade-point average, ACT Composite scores, and educational aspiration were higher for each succeeding level of institution. The data show that public two-year colleges enroll most of the commuting students. Consistent with the housing patterns, two-year colleges showed sig-

nificantly lower percentages of planned participation in extracurricular activities than any other level. Very little differences were shown in enrollment of minority groups among the four levels. In terms of family income, however, there is a marked dichotomy between two-year and baccalaureate colleges versus colleges and universities with graduate programs, with the former having greater percentages of lower-income students than the latter. As might be expected, "low-cost" was more frequently an important college choice factor for students entering public two-year colleges than was true for other levels; high scholastic standards was of more importance with each succeeding level of institution. Two-year colleges served more students who have been out of high school for one or more years than other levels of institutions.

The data showed interesting differences in distributions of the variables according to type of control. Consistent with other national studies, these data showed that private colleges generally enroll students of higher academic ability and achievement. Males who enroll in private colleges have higher educational aspirations than males in public colleges; but for females there were no substantial differences. Levels of participation in extracurricular activity are higher in private colleges than in public. Family income is substantially higher for students attending private institutions compared to those in public institutions; nonetheless, more students in private institutions consistently indicate need for financial aid all through college compared to public institutions. Public colleges enroll higher percentages of minority students.

For each of the variables, the following trends are shown over the period of time studied: (1) High school grade-point averages showed a general increase, but ACT Composite scores showed a somewhat different pattern, increasing from 1968-70 then declining from 1970-72. These trends are seen to be consistent with increasingly relaxed grading standards in high school and decreased selectivity by colleges during this period. (2) Aspiration for both two-year degrees and doctorates increased, but there is a general decrease in aspiration for both master's and baccalaureate degrees. (3) Housing trends seem to indicate a shift away from on-campus residence to off-campus rooms and apartments. (4) Very sharp changes were shown in extracurricular activity, with highest levels shown in 1968, a very striking drop by 1970, and some recovery by 1972. (5) The overall trend in minority enrollment is for percentage increases for all minority groups studied. (6) The data for family income showed

a generally higher average family income, with particularly marked increases in the higher income levels; there were also increases shown in the lowest income categories, which may be due to the availability of financial aid for such students.

The implications of these data for higher education administrators and faculty are too complex to allow detailed discussion in the present report. An entirely unique set of challenges is emerging for the immediate future of higher education. In general, a new era seems to be beginning, one that will include sharply decelerating growth and perhaps even decline in numbers of students entering higher education, along with a continuing increase in the diversity of student ability and socioeconomic background characteristics. These trends imply that more attention must be paid to the improvement of academic, service, research, and extracurricular programs to cope with increasing diversity of backgrounds and motivations of students at the same time that severe financial stress will oppress all levels of higher education.

We will not attempt to catalog herein the implications for higher education; it would be easier to list the aspects of higher education that would *not* be affected by the changes portended by the findings discussed in this report. A partial listing may be illustrative. Obviously, teaching faculty will have to find ways to intellectually stimulate and teach students who have a wider variety of academic motivations and capabilities than ever before. Academic administrators will find their challenges centering on finding ways to convince teaching faculties that flexibility and adaptability to the new emphasis on teaching is more important than the former emphasis given to scholarly research. Fiscal administrators will be hard put to stretch stable or declining income over ever-increasing needs for more social and academic programs. Their particular challenge will be to reduce expenditures in traditional functions guarded by strong faculty vested interests to channel funds toward new counseling and academic support programs. The financial aid officer will be attempting to find more money for greater numbers of students than ever before. Admissions officers and registrars will be dealing with an increasing variety of academic preparation levels of all types of new students—older students, minority students, and others. Housing bureau staff, custodial staff, campus security officers, in short, virtually all professional and service staff of the institutions will be facing new challenges ahead.

All of these implications for role and function of various personnel

may be subsumed under broader policy considerations: for example, as enrollment growth levels off and then attenuates, the balance of the power of decisionmaking will shift from the purveyor (institutionalized higher education) to the consumer (the student). This, in turn, will bring a new dimension to the term "accountability." Higher institutions will become not only more accountable to state legislatures and other direct sources of fiscal support, but also more directly to the students who, according to all current indications of impending changes in fiscal policy, will be in a position to influence growth and vitality of institutions directly through their increasing capabilities to select where they wish to enroll, and also through their increasing share of the total revenue of an institution provided by their tuition and fees. The students' choice of college will more and more be influenced by their perception of the attractiveness of and worth of the academic programs offered—a cost-benefit approach that is quite new to higher education. The function of academic planning will become increasingly important and, accordingly, will become institutionalized through personnel and resources allocated to this function by top administrators.

A recent Carnegie Commission on Higher Education report indicates that "slowly rising and then shrinking enrollments will produce a new climate of cooperation between colleges and the schools. Many colleges are now feeling an enrollment pinch. Some will be well advised to look beyond the traditional high school graduates and to recruit from other, more non-traditional sources as well" (Carnegie Commission on Higher Education 1973a, p. 2). The same report also indicates a belief that the community colleges will become the most important route to universal access to higher education. Clearly, the findings of the present report point in the same direction. If these indications are borne out, the rising importance of the two-year college and the concomitant blurring of the distinction between secondary and postsecondary education (as exemplified by advanced placement exams) may lead to restructuring of the entire system of higher education. These trends along with the growth of the "middle school" concept may even lead to a revival of the once-popular notion of the 6-4-4 plan, encompassing a baccalaureate-type of program offered during the tenth through the fourteenth years of schooling.

The new conditions also seem to call for a smoother transition from school to college. Ways must be found to reduce the financial cost and emotional stress in the admissions process. The new "con-

sumerism" will lead to as much information provided to students about colleges as presently provided to colleges about students. Colleges will also find it mandatory to concentrate more upon the "value added" by the college experience rather than the characteristics of students who enter academic programs.

In all of the new trends and challenges discussed or implied in our findings, only one is certain to be constant and inescapable—and that is change itself. Will higher education be able to adequately anticipate and plan for these changes?

Bibliography

The ERIC Clearinghouse on Higher Education abstracts and indexes the current research literature on higher education for publication in the National Institute of Education's monthly *Research in Education* (RIE). Readers who wish to order ERIC documents cited in the bibliography should write to the ERIC Document Reproduction Service, Post Office Drawer 0, Bethesda, Maryland 20014. When ordering, please specify the ERIC document (ED) number. Unless otherwise noted, documents are available in both microfiche (MF) and hard/photocopy (HC). All microfiche titles cost $0.65; hard/photocopy reproduction costs $3.29 per 100 pages. All orders must be in writing and payment must accompany orders of less than $10.00.

American College Testing Program. *Handbook for the ACT Career Planning Program.* Iowa City, Iowa: American College Testing Program, 1972.

———. *Your College-Bound Students: Interpretive Guide to the ACT High School Profile Service.* Iowa City, Iowa: American College Testing Program, 1971.

American Council on Education, Office of Research. "National Norms for Entering Freshmen—Fall, 1968." *ACE Research Reports,* Washington, D. C.: American Council on Education, 1968.

———. "National Norms for Entering Freshmen—Fall, 1970." *ACE Research Reports,* Washington, D. C.: American Council on Education, 1970. ED 046 342. MF-$0.65; HC-$3.29.

———. "The American Freshman: National Norms for Fall 1972." *ACE Research Reports,* Washington, D. C.: American Council on Education, 1972.

Ashby, E. *Any Person, Any Study: An Essay on Higher Education in the United States.* New York: McGraw-Hill, 1971.

Astin, H. S. and Bisconti, A. S. "Trends in Academic and Career Plans of College Freshmen." Bethlehem, Penn.: The CPC Foundation, 1972.

Bayer, A. E. and Boruch, R. F. "Black and White Freshmen Entering Four-Year Colleges." *The Educational Record 50* (1969): 371-386.

Borow, H. "College and the Disadvantaged: A Whole New Ball Game." Minneapolis, Minn.: University of Minnesota, *Professional Development Review 3* (1969): 1-10.

Boyd, J. D. and Fenske, R. H. *A Study of 1967-68 Scholarship and Grant Recipients.* Deerfield, Ill.: The Illinois State Scholarship Commission, 1969.

Bushnell, D. S. *Organizing for Change: New Priorities for Community Colleges.* New York: McGraw-Hill, 1973.

California State Colleges. "Freshmen Profile: Selected Characteristics of First-Time Students Enrolled in the California State Colleges, Fall 1968." *DIR Monograph No. 6* Los Angeles: The California State Colleges, Office of the Chancellor, 1969 (a).

———. "Those Who Made It: Selected Characteristics of the June 1967, California State College Baccalaureate Graduates." *DIR Monograph No. 1.* Los Angeles: The California State Colleges, Office of the Chancellor, 1969 (b).

Carmody, J. F.; Fenske, R. H.; and Scott, C. S. *Changes in Goals, Plans, and Background Characteristics of College-Bound High School Students.* ACT Research Report No. 52, Iowa City, Iowa: The American College Testing Program, 1972.

Carnegie Commission on Higher Education. *A Chance to Learn: An Action Agenda for Equal Opportunity in Higher Education.* New York: McGraw-Hill, 1970. ED 039 840. MF-$0.65; HC-$3.29.

———. *New Students and New Places.* New York: McGraw-Hill, 1971.

———. *Continuity and Discontinuity: Higher Education and the Schools.* New York: McGraw-Hill, 1973a.

———. *Priorities for Action: The Final Report of the Carnegie Commission on Higher Education.* New York: McGraw-Hill, 1973b.

Cohen, A. M. and Brawer, F. B. "Student Characteristics: Personality and Dropout Propensity." *ERIC/AAJC Monograph Series: No. 9.* Washington, D. C.: American Association of Junior Colleges, 1970. ED 038 130. MF-$0.65; HC-$3.29.

Committee for Economic Development. *The Management and Financing of Colleges.* New York: The Committee for Economic Development, Research and Policy Committee, 1973.

Committee on the Student in Higher Education. *The Student in Higher Education.* New Haven, Conn.: The Hazen Foundation, 1968. ED 028 735. MF-$0.65; HC-$3.29.

Coordinating Council for Higher Education. *The Undergraduate*

Student and His Higher Education: Policies of California Colleges and Universities in the Next Decade. Sacramento, Calif.: Author, 1969. ED 032 836. MF-$0.65; HC-$6.58.

Cross, K. P. *Beyond the Open Door.* San Francisco: Jossey-Bass, 1971.

———. *The Junior College Student: A Research Description.* Princeton, N. J.: Educational Testing Service, 1968. ED 024 354. MF-$0.65; HC-$3.29.

———. "The Role of the Junior College in Providing Postsecondary Education for All." *Trends in Postsecondary Education,* Washington, D. C.: Department of Health, Education, and Welfare, (OE-50063), 1970. ED 054 761. MF-$0.65; HC-$9.87.

Egerton, J. "Almost All-White." *Southern Education Report 4* (1969).

Fenske, R. H.; Scott, C. S.; and Carmody, J. F. *College Student Migration.* ACT Research Report No. 54, Iowa City, Iowa: The American College Testing Program, 1972. ED 076 150. MF-$0.65; HC-$3.29.

Ferrin, R. I. *A Decade of Change in Free-Access Higher Education.* Princeton, N. J.: College Entrance Examination Board, 1971. ED 052 758. MF-$0.65; HC-$3.29.

Florida Board of Regents. *Characteristics of College Students, Entering Freshman and Transfer Undergraduates: Florida's Public Universities, Fall, 1969.* Tallahassee, Florida: Author, 1970.

———. *Characteristics of College Students, Entering Freshman and Transfer Undergraduates: Florida's Private Senior Universities and Colleges, Fall 1970.* Tallahassee, Florida: Author, 1971. (a)

———. *Characteristics of College Students, Entering Freshmen and Transfer Undergraduates: Florida's Public Universities, Fall 1970.* Tallahassee, Florida: Author, 1971. (b)

———. *Plans Beyond High School: A Report of a Statewide Survey of Florida High School Seniors, Fall 1972.* Tallahassee, Florida: Author, 1973.

———, and the Florida State Department of Education. *Characteristics of College Students, Entering Freshmen and Transfer Undergraduates: Junior College Survey, Fall 1969.* Tallahassee, Florida: Author, 1970.

———. *Characteristics of College Students, Entering Freshmen and Transfer Undergraduates: Junior College Survey, Fall 1970.* Tallahassee, Florida: Author, 1971.

Froomkin, J. *Aspirations, Enrollments, and Resources.* Washing-

ton, D. C.: U. S. Government Printing Office (OE-50058), 1970. ED 037 183. MF-$3.29; HC-$6.58.

Garbin, A. P. and Vaughn, D. "Community-Junior College Students Enrolled in Occupational Programs: Selected Characteristics, Experiences, and Perceptions." *CVTE Research and Development Series No. 53*, Columbus, Ohio: The Center for Vocational and Technical Education, 1971.

Glenny, L. A. *A Golden Age for Students, A Precarious Era for Colleges.* Paper presented in Special Seminars in Education Series, American College Testing Program and The University of Iowa, Iowa City, Iowa, September 20, 1971.

Lingren, H. G. and Eyre, R. J. *Beyond the Twelfth Grade: An Analysis of Postgraduation Plans of High School Seniors in Idaho in 1971.* Pocatello, Idaho: Government Research Institute, Idaho State University, 1972.

Lins, L. J. *Post-Secondary Educational Preferences of High School Seniors.* Madison, Wis.: Coordinating Council for Higher Education, 1969, pp. ix-xii. ED 033 660. MF-$0.65; HC-$3.29.

Lisack, J. P. *75,000 High Schools Seniors: Their Educational and Vocational Plans, Results of a Survey of Indiana's High School Senior Class of 1969.* Lafayette, Indiana: Office of Manpower Studies, Purdue University, 1970.

Maxey, E. J. and Ormsby, V. J. *The Accuracy of Self-Report Information Collected on the ACT Test Battery: High School Grades and Items of Nonacademic Achievement.* ACT Research Report No. 45, Iowa City, Iowa: The American College Testing Program, 1971. ED 054 738. MF-$0.65; HC-$3.29.

McClung, R. O. "Differences in Student Characteristics and Perceptions of the College Environment between Junior College Students Classified by Level of Satisfaction with Environment, Educational Classification and Sex." Unpublished doctoral dissertation. North Texas State University, 1970.

Medsker, L. L. and Tillery, D. *Breaking the Access Barrier: A Profile of Two-Year Colleges.* New York: McGraw-Hill, 1971. ED 055 578. MF-$0.65; HC-$6.58.

———, and Trent, J. W. Factors Related to Type of College Attendance. In *College and Student: Selected Readings in the Social Psychology of Higher Education,* edited by K. A. Feldman. New York: Pergamon Press, 1972.

Minnesota Higher Education Coordinating Commission. "ACT Class Profile of Minnesota Public College Entering Freshmen, and

Area Vocational-Technical School-Bound Students, 1969." St. Paul, Minn.: Author, 1970.

———. "MSAT Student Profile of Minnesota High School Junior Students Choosing Post-Secondary Training in Public College Systems, Private Trade Schools, and Those not Planning Training, 1970." St. Paul, Minn.: Author, 1971. (a)

———. "ACT Class Profile of Minnesota College—Entering Freshmen." St. Paul, Minn.: Author, 1971. (b)

Newcomb, T. M. "Open Admissions Before the Deluge." Paper presented at the American Association for Higher Education Conference, Chicago, March 4, 1970. ED 040 675. MF-$0.65; HC-$3.29.

Pavalko, R. M. and Bishop, D. R. "Socioeconomic Status and College Plans: A Study of Canadian High School Students." *The Sociology of Education* 39 (1966): 288-298.

Peterson, R. E. *American College and University Enrollment Trends in 1971.* Berkeley, Calif.: The Carnegie Foundation for the Advancement of Teaching, 1972.

Raines, M. R. "Characteristics of Junior College Students." *National Business Education Quarterly* 36 (1967-68).

Rever, P. R. *Open Admissions and Equal Access.* Monograph No. 4, The American College Testing Program, Iowa City, Iowa, 1971. ED 051 747. MF-$0.65; HC-$6.58.

Rossman, J. E. *Open Admissions and the College Environment.* Paper presented at the American Educational Research Association, April 8, 1972. ED 060 818. MF-$0.65; HC-$3.29.

Scott, C. S.; Fenske, R. H.; and Maxey, E. J. *Vocational Choice Change Patterns of a National Sample of Community-Junior College Students.* ACT Research Report No. 62 (in press).

Seashore, H. "Academic Abilities of Junior College Students." *Junior College Journal* 29 (1959).

Sewell, W. H. "Community of Residence and College Plans." *American Sociological Review* 29 (1964): 24-38.

———, and Shah, V. P. "Social Class, Parental Encouragement, and Educational Aspirations." *The American Journal of Sociology* 73 (1968): 559-572.

———. "Socioeconomic Status, Intelligence, and the Attachment of Higher Education." *Sociology of Education* 40 (1967): 1-23.

State University of New York. *An Analysis of Trends in Admissions and Student Flow Processes.* A Staff Report to the Board of Trustees of the State University of New York: State University of New York, 1972.

Stecklein, J. E.; Fenske, R. H.; and Huang, A. S. *Student Finances Study: An Analysis of Income and Expenditures of Sophomore, Junior, and Senior Students at the University of Minnesota, 1965-66 Academic Year.* Minneapolis: Bureau of Institutional Research, 1967.

Trent, J. W. "The Decision to Go to College: An Accumulative Multivariate Process." *Trends in Postsecondary Education.* Washington, D. C.: Department of Health, Education, and Welfare (OE-50063), 1970. ED 047 651. MF-$0.65; HC-$3.29.

Watkins, B. T. "Future College Enrollments. Now Seen Falling Far Short of Previous Projections." *The Chronicle of Higher Education,* October 1, 1973, p. 1.

Wisgoski, A. E. "Characteristics of Junior College Students: Implications for Faculty and Student Personnel Specialists." In *Perspectives on the Community-Junior College,* edited by W. K. Ogilvie and M. R. Raines. New York: Appleton-Century-Crofts, 1971.

Appendix A: Number of Students in Sample

Number of Students in Sample by Sex, Year, Level and Type of Institution

Year		Public				Private			
		Level I 59 Colleges	Level II 30 Colleges	Level III 70 Colleges	Level IV 50 Colleges	Level I 14 Colleges	Level II 41 Colleges	Level III 19 Colleges	Level IV 7 Colleges
1968	Males	12296	3856	32828	37468	768	4853	2190	3319
	Females	7657	3284	31486	29162	1049	4811	2613	3547
1970	Males	14473	4050	30242	39234	739	4630	2098	3692
	Females	10177	3434	32131	31634	945	5121	2842	4113
1972	Males	11995	3278	26046	34307	803	4186	1977	4033
	Females	10380	2924	28569	29634	1169	4979	2605	4388
Total by Sex	Males	38764	11184	89116	111009	2310	13669	6265	11044
	Females	28214	9642	92186	90430	3163	14911	8060	12048
Total		66978	20826	181302	201439	5473	28580	14325	23092

Appendix B: Alphabetical List of Institutions in the Sample (N = 290)

Adams State College
Alamosa, Colorado

Alabama Agricultural and Mechanical University
Normal, Alabama

Alabama Christian College
Montgomery, Alabama

Alaska Methodist University
Anchorage, Alaska

Alderson-Broaddus College
Philippi, West Virginia

Allen County Community Junior College
Iola, Kansas

Andrews University
Berrien Springs, Michigan

Anne Arundel Community College
Arnold, Maryland

Arkansas Agricultural, Mechanical and Normal College
Pine Bluff, Arkansas

Arkansas Polytechnic College
Russellville, Arkansas

Arkansas State University
State University, Arkansas

Asbury College
Wilmore, Kentucky

Auburn Community College
Auburn, New York

Auburn University
Auburn, Alabama

Augsburg College
Minneapolis, Minnesota

Augustana College
Sioux Falls, South Dakota

Austin State Junior College
Austin, Minnesota

Bacone College
Bacone, Oklahoma

Bay De Noc Community College
Escanaba, Michigan

Baylor University
Waco, Texas

Belhaven College
Jackson, Mississippi

Bemidji State College
Bemidji, Minnesota

Benedictine College
Atchison, Kansas

Berea College
Berea, Kentucky

Bethany Bible College
Santa Cruz, California

Bethany Nazarene College
Bethany, Oklahoma

Bethel College
North Newton, Kansas

Birmingham-Southern College
Birmingham, Alabama

Blue Mountain College
Blue Mountain, Mississippi

Bradley University
Peoria, Illinois

Brigham Young University
Provo, Utah

Bryan College
Dayton, Tennessee

California State College—
Dominquez Hills
Gardena, California

California State University—
Hayward
Hayward, California

California State University—
Long Beach
Long Beach, California

California State University—
Sacramento
Sacramento, California

Calvary Bible College
Kansas City, Missouri

Cameron College
Lawton, Oklahoma

Campbellsville College
Campbellsville, Kentucky

Carson-Newman College
Jefferson City, Tennessee

Catonsville Community College
Catonsville, Maryland

Cedarville College
Cedarville, Ohio

Chadron State College
Chadron, Nebraska

Chicago City College—
Wright Campus
Chicago, Illinois

Claremore Junior College
Claremore, Oklahoma

Clarendon College
Clarendon, Texas

Clarke College
Dubuque, Iowa

Coffeyville Community Junior
College
Coffeyville, Kansas

College of Great Falls
Great Falls, Montana

College of Idaho
Caldwell, Idaho

College of the Redwoods
Eureka, California

College of Saint Mary
Omaha, Nebraska

College of Saint Scholastica
Duluth, Minnesota

Colorado State University
Ft. Collins, Colorado

Columbia Union College
Takoma Park, Maryland

Columbus Technical Institute
Columbus, Ohio

Concord College
Athens, West Virginia

Concordia College
St. Paul, Minnesota

Concordia College
Bronxville, New York

Concordia College
Portland, Oregon

Concordia College
Milwaukee, Wisconsin

Concordia Teachers College
River Forest, Illinois

Cooke County College
Gainesville, Texas

Creighton University
Omaha, Nebraska

Dakota Wesleyan University
Mitchell, South Dakota

Dana College
Blair, Nebraska

David Lipscomb College
Nashville, Tennessee

Dawson College
Glendive, Montana

Dodge City Community Junior College
Dodge City, Kansas

Dr. Martin Luther King College
New Ulm, Minnesota

Drake University
Des Moines, Iowa

East Mississippi Junior College
Scooba, Mississippi

East Tennessee State University
Johnson City, Tennessee

East Texas State University
Commerce, Texas

Eastern Connecticut State College
Willimantic, Connecticut

Eastern Montana College
Billings, Montana

Eastern Wyoming College
Torrington, Wyoming

Edgewood College
Madison, Wisconsin

Ellsworth College
Iowa Falls, Iowa

Eureka College
Eureka, Illinois

Fergus Falls State Junior College
Fergus Falls, Minnesota

Foothill College
Los Altos Hills, California

Fort Hays State College
Hays, Kansas

Fort Lewis College
Durango, Colorado

George Fox College
Newberg, Oregon

Georgetown College
Georgetown, Kentucky

Glendale Community College
Glendale, Arizona

Glenville State College
Glenville, West Virginia

Gloucester County College
Sewell, New Jersey

Gogebic Community College
Ironwood, Michigan

Golden Valley Lutheran College
Minneapolis, Minnesota

Grace College
Winona Lake, Indiana

Grand View College
Des Moines, Iowa

Hardin-Simmons University
Abilene, Texas

Harford Junior College
Bel Air, Maryland

Henderson State College
Arkadelphia, Arkansas

Hesston College
Hesston, Kansas

Huron College
Huron, South Dakota

Idaho State University
Pocatello, Idaho

Illinois Central College
East Peoria, Illinois

Incarnate Word College
San Antonio, Texas

Iowa Central Community College
Webster City, Iowa

Iowa State University
Ames, Iowa

Jackson County Junior College
Ellisville, Mississippi

Jacksonville College
Jacksonville, Texas

Jacksonville State University
Jacksonville, Alabama

John Brown University
Siloam Springs, Arkansas

John Wesley College
Owosso, Michigan

Johnson State College
Johnson, Vermont

Kalamazoo Valley Community College
Kalamazoo, Michigan

Kansas State College
Pittsburg, Kansas

Kansas State University
Manhattan, Kansas

Kansas Wesleyan University
Salina, Kansas

Kellogg Community College
Battle Creek, Michigan

Kent State University
Kent, Ohio

Lake Land College
Mattoon, Illinois

Lake Superior State College
Sault Ste. Marie, Michigan

Lakeland Community College
Mentor, Ohio

Lambuth College
Jackson, Tennessee

Lee College
Cleveland, Tennessee

Lewis College
Lockport, Illinois

Lincoln Christian College
Lincoln, Illinois

Loras College
Dubuque, Iowa

Louisiana College
Pineville, Louisiana

Louisiana State University
Eunice, Louisiana

Louisiana State University
New Orleans, Louisiana

Luzerne County Community College
Wilkes-Barre, Pennsylvania

Madonna College
Livonia, Michigan

Mankato State College
Mankato, Minnesota

Marshall University
Huntington, West Virginia

Martin College
Pulaski, Tennessee

Mary College
Bismarck, North Dakota

Marymount College
Salina, Kansas

Mayville State College
Mayville, North Dakota

McHenry County College
Crystal Lake, Illinois

McMurry College
Abilene, Texas

Memphis State University
Memphis, Tennessee

Miami University
Middletown, Ohio

Miami University
Oxford, Ohio

Michigan Technological University
Houghton, Michigan

Midland College
Fremont, Nebraska

Midwest Christian College
Oklahoma City, Oklahoma

Milligan College
Milligan College, Tennessee

Milwaukee School of Engineering
Milwaukee, Wisconsin

Minot State College
Minot, North Dakota

Mississippi College
Clinton, Mississippi

Mississippi State College
Columbus, Mississippi

Mississippi State University
State College, Mississippi

Montana College of Mineral Science and Technology
Butte, Montana

Moody Bible Institute
Chicago, Illinois

Moorhead State College
Moorhead, Minnesota

Mount St. Clare Junior College
Clinton, Iowa

Mount Vernon Nazarene College
Mount Vernon, Ohio

Murray State University
Murray, Kentucky

National College of Business
Rapid City, South Dakota

North Central Michigan College
Petoskey, Michigan

North Dakota State University
Fargo, North Dakota

North Idaho College
Coeur D'Alene, Idaho

Northeast Louisiana University
Monroe, Louisiana

Northeast Missouri State College
Kirksville, Missouri

Northeast State Junior College
Rainsville, Alabama

Northeastern Illinois University
Chicago, Illinois

Northeastern Junior College
Sterling, Colorado

Northeastern Nebraska College
Norfolk, Nebraska

Northeastern State College
Tahlequah, Oklahoma

Northern Illinois University
DeKalb, Illinois

Northern State College
Aberdeen, South Dakota

Northwestern College
Orange City, Iowa

Northwestern State College
Alva, Oklahoma

Northwestern State University
Natchitoches, Louisiana

New Mexico Institute of Mining and Technology
Socorro, New Mexico

New Mexico State University
Las Cruces, New Mexico

Oklahoma Christian College
Oklahoma City, Oklahoma

Oklahoma State University
Stillwater, Oklahoma

Ouachita Baptist University
Arkadelphia, Arkansas

Pacific Christian College
Long Beach, California

Panola College
Carthage, Texas

Pasadena College
Pasadena, California

Perkinston Junior College
Perkinston, Mississippi

Phillips University
Enid, Oklahoma

Pikeville College
Pikeville, Kentucky

Prairie State College
Chicago Heights, Illinois

Pratt Community Junior College
Pratt, Kansas

Quincy College
Quincy, Illinois

Rhode Island Junior College
Providence, Rhode Island

Rockhurst College
Kansas City, Missouri

Rockingham Community College
Wentworth, North Carolina

Rocky Mountain College
Billings, Montana

Roosevelt University
Chicago, Illinois

Sacred Heart College
Belmont, North Carolina

Saddleback College
Mission Viejo, California

Sam Houston State University
Huntsville, Texas

Samford University
Birmingham, Alabama

Sauk Valley College
Dixon, Illinois

Shepherd College
Shepherdstown, West Virginia

South Dakota School of Mines and Technology
Rapid City, South Dakota

South Dakota State University
Brookings, South Dakota

South-Eastern Bible College
Lakeland, Florida

South Plains College
Levelland, Texas

Southeastern Bible College
Birmingham, Alabama

Southeastern State College
Durant, Oklahoma

Southern Baptist College
Walnut Ridge, Arkansas

Southern Utah State College
Cedar City, Utah

Southwest State College
Marshall, Minnesota

Southwest Texas State University
San Marcos, Texas

Southwestern Union College
Keene, Texas

St. Ambrose College
Davenport, Iowa

St. Clair County Community College
Port Huron, Michigan

St. Cloud State College
St. Cloud, Minnesota

St. Louis College of Pharmacy
St. Louis, Missouri

St. Louis University
St. Louis, Missouri

St. Mary College
Leavenworth, Kansas

St. Mary of the Plains College
Dodge City, Kansas

St. Mary's College of O'Fallon
O'Fallon, Missouri

St. Mary's Junior College
Minneapolis, Minnesota

St. Mary's University
San Antonio, Texas

State College of Arkansas
Conway, Arkansas

Stephen F. Austin State University
Nacogdoches, Texas

Sul Ross State University
Alpine, Texas

Tabor College
Hillsboro, Kansas

Taft College
Taft, California

Temple Junior College
Temple, Texas

Tennessee State University
Nashville, Tennessee

Tennessee Temple College
Chattanooga, Tennessee

Tennessee Technological University
Cookeville, Tennessee

Texas A and I University
Kingsville, Texas

Texas Southmost College
Brownsville, Texas

The Ohio State University
Columbus, Ohio

Tiffin University
Tiffin, Ohio

Trinity College
Deerfield, Illinois

Union College
Lincoln Nebraska

University of Akron
Akron, Ohio

University of Alabama
Birmingham, Alabama

University of Alabama
University, Alabama

University of Arkansas
Fayetteville, Arkansas

University of Colorado
Boulder, Colorado

University of Colorado
Denver, Colorado

University of Iowa
Iowa City, Iowa

University of Kansas
Lawrence, Kansas

University of Minnesota
St. Paul, Minnesota

University of Mississippi
University, Mississippi

University of Missouri
St. Louis, Missouri

University of Montana
Missoula, Montana

University of Montevallo
Montevallo, Alabama

University of Nebraska
Omaha, Nebraska

University of Nevada
Las Vegas, Nevada

University of Nevada
Reno, Nevada

University of New Mexico
Albuquerque, New Mexico

University of North Dakota
Grand Forks, North Dakota

University of Northern Iowa
Cedar Falls, Iowa

University of Oklahoma
Norman, Oklahoma

University of South Dakota
Springfield, South Dakota

University of South Dakota
Vermillion, South Dakota

University of Tennessee
Martin, Tennessee

University of Tennessee
Nashville, Tennessee

University of Utah
Salt Lake City, Utah

University of Wisconsin*
Madison, Wisconsin

University of Wyoming
Laramie, Wyoming

Upper Iowa College
Fayette, Iowa

Utah State University
Logan, Utah

Utica Junior College
Utica, Mississippi

Washburn University
Topeka, Kansas

Waubensee Community College
Aurora, Illinois

Wayne State College
Wayne, Nebraska

West Liberty State College
West Liberty, West Virginia

West Virginia Institute of Technology
Montgomery, West Virginia

West Virginia University
Morgantown, West Virginia

West Virginia Wesleyan College
Buckhannon, West Virginia

Western Kentucky University
Bowling Green, Kentucky

Western Montana College
Dillon, Montana

Western New Mexico University
Silver City, New Mexico

Western Wyoming College
Rock Springs, Wyoming

Westmar College
Lemars, Iowa

William Carey College
Hattiesburg, Mississippi

William Jewel College
Liberty, Missouri

Willmar State Junior College
Willmar, Minnesota

Winona State College
Winona, Minnesota

Wright State University
Dayton, Ohio

* Also includes freshmen enrolled at the following campuses of the University of Wisconsin: Baraboo, EauClaire, Fond du Lac, Green Bay, Janesville, LaCrosse, Manitowoc, Marinette, Marshfield, Menasha, Menomonie, Platteville, Rice Lake, Richland Center, Sheboygan, Stevens Point, Superior, Waukesha, Wausau, West Bend.

Appendix C: Supplementary Tables

Table C-1. Type of Housing Anticipated, Males Only

Year	Institutional Type	On Campus		Off Campus		At Home	
		Public	Private	Public	Private	Public	Private
1968	I	18.7	68.1	15.0	4.4	66.3	27.5
	II	61.3	70.6	11.1	5.2	27.4	24.2
	III	59.9	70.5	9.4	4.5	30.7	25.0
	IV	65.4	74.5	7.7	7.6	26.8	17.8
1970	I	18.3	69.7	16.9	3.5	64.8	26.8
	II	68.5	71.3	10.4	5.3	26.1	23.4
	III	59.1	71.4	10.3	4.7	30.6	23.8
	IV	64.4	73.0	10.1	11.0	25.5	16.1
1972	I	20.0	71.9	18.3	6.7	61.5	21.4
	II	64.2	72.5	9.8	6.3	25.9	21.2
	III	60.1	71.0	11.7	6.2	28.2	22.8
	IV	60.9	74.5	12.8	10.1	26.3	15.4

Table C-2. Type of Housing Anticipated, Females Only

Year	Institutional Type	On Campus		Off Campus		At Home	
		Public	Private	Public	Private	Public	Private
1968	I	21.8	71.5	8.5	2.0	69.5	26.5
	II	76.9	83.9	2.1	1.0	20.8	15.0
	III	69.7	82.1	2.7	.9	27.6	17.0
	IV	73.2	83.9	1.7	3.4	25.1	12.6
1970	I	21.9	75.8	10.2	2.4	67.8	21.8
	II	74.8	82.2	2.9	1.6	22.3	16.2
	III	71.1	80.4	3.3	1.4	25.6	18.2
	IV	73.2	81.9	2.7	6.8	24.0	11.2
1972	I	22.2	70.5	11.8	5.2	65.9	24.1
	II	70.5	80.9	4.2	2.2	25.3	16.9
	III	70.3	79.2	4.9	2.2	24.8	18.6
	IV	70.9	82.9	5.2	6.5	23.9	10.5

Table C-3. Planned Extracurricular Activities by Sex, Year, Institutional Type, and Type of Control

Year	Institutional Type	Writing for Campus Yearbook, Newspapers, etc.				Student Government			
		Public		Private		Public		Private	
		Male	Female	Male	Female	Male	Female	Male	Female
1968	I	32.9	52.7	38.4	54.9	45.1	49.7	55.8	53.1
	II	38.0	61.6	43.2	58.8	53.3	64.8	58.2	60.7
	III	34.4	55.0	46.4	62.4	50.7	55.8	61.7	63.1
	IV	36.4	55.8	42.6	53.7	54.1	60.0	67.5	70.4
1970	I	12.5	26.3	18.1	30.2	21.0	24.5	32.3	29.7
	II	13.8	33.3	17.2	29.4	27.4	33.9	31.2	32.9
	III	15.4	29.0	19.9	29.7	29.0	31.4	35.8	37.4
	IV	13.5	25.3	15.5	25.5	26.7	30.6	36.2	37.4
1972	I	14.4	28.2	18.8	30.8	22.7	25.2	30.5	27.5
	II	16.4	37.4	21.3	34.5	30.5	38.0	34.7	36.3
	III	16.6	31.0	20.6	30.8	29.6	32.4	39.4	37.4
	IV	16.7	30.1	16.5	25.3	30.6	34.6	36.1	36.4

Table C-4. Racial/Ethnic Background of Males by Year, Institutional Type, and Type of Control

Year	Institutional Type	Afro-American		American Indian		Oriental American		Spanish American	
		Public	Private	Public	Private	Public	Private	Public	Private
1970	I	1.6	4.0	.6	4.5	1.2	.4	.7	.9
	II	3.6	1.3	1.8	.7	.6	.2	.4	.3
	III	2.6	2.0	.8	.7	1.1	2.6	.7	.7
	IV	1.6	.9	.5	1.5	.8	.3	.4	.2
1972	I	2.9	4.5	1.0	4.6	1.9	.5	1.4	1.1
	II	9.7	2.9	1.8	.9	.8	.6	1.4	.8
	III	5.2	3.0	.9	.7	2.2	5.4	1.2	.7
	IV	3.0	1.1	.9	1.2	1.8	.8	.8	.9

Table C-5. Racial/Ethnic Background of Females by Year, Institutional Type, and Type of Control

Year	Institutional Type	Afro-American		American Indian		Oriental American		Spanish American	
		Public	Private	Public	Private	Public	Private	Public	Private
1970	I	2.0	1.3	.7	2.5	1.1	.3	.4	.2
	II	4.4	1.3	1.7	.7	.4	.2	.3	.2
	III	3.2	2.1	.8	.4	.9	3.0	.5	.2
	IV	2.4	.8	.6	2.1	.8	.3	.3	.1
1972	I	3.8	3.5	.8	4.8	2.1	.4	1.4	1.4
	II	11.0	2.3	2.2	.8	.6	.6	1.3	.9
	III	6.4	3.9	.9	.8	1.7	5.4	1.9	1.1
	IV	4.9	1.4	1.1	2.2	1.7	.4	.8	.6

Table C-6. Family Income, Males and Females

Year	Institutional Type	Less than $3,000		$3,000 to $7,499		$7,500 to $14,999		$15,000 to $19,999		$20,000 and Over	
		Public	Private	Public	Private	Public	Private	Public	Private	Public	Private
1968	I	5.5	11.2	40.0	47.1	44.7	35.2	6.1	3.8	3.7	2.6
	II	12.0	6.0	46.0	40.4	34.1	42.4	4.6	5.9	3.3	5.4
	III	6.6	5.1	40.2	38.5	42.3	43.7	6.2	6.5	4.7	6.1
	IV	3.6	3.6	32.4	30.7	48.5	44.2	8.1	9.7	7.3	11.9
1970	I	4.5	4.7	28.4	33.3	50.8	47.9	9.8	8.8	6.4	5.1
	II	10.0	3.8	36.0	27.4	42.1	51.4	7.0	9.9	4.9	7.5
	III	4.4	3.3	28.2	27.8	49.1	50.4	10.6	10.0	7.7	9.0
	IV	2.6	2.2	22.0	15.8	50.6	54.0	13.2	12.9	11.6	15.1
1972	I	7.3	10.2	24.8	27.8	52.0	50.1	9.4	7.4	6.6	4.4
	II	10.5	4.2	31.4	24.5	44.3	52.1	7.5	10.2	6.2	8.9
	III	5.6	4.5	23.2	23.9	50.2	50.0	11.0	10.5	9.9	11.0
	IV	4.0	2.6	18.2	15.7	51.6	51.9	13.0	13.4	13.1	16.4

Table C-7. Major Consideration Given to College Choice Factors by Year, Institutional Type, and Type of Control, Males and Females Combined

Year	Institutional Type	High Scholastic Standards		Low Cost		Campus Tours	
		Public	Private	Public	Private	Public	Private
1968	I	41.4	42.4	43.8	29.0	•	•
	II	48.5	54.2	33.8	22.0	•	•
	III	49.2	58.6	31.1	18.0	•	•
	IV	56.8	61.7	26.2	18.1	•	•
1970	I	31.5	40.9	17.3	37.8	24.3	41.0
	II	40.5	44.6	38.6	23.1	34.0	38.3
	III	43.9	53.7	39.7	22.0	38.2	41.6
	IV	47.2	64.6	29.6	23.1	37.4	47.9
1972	I	34.1	34.6	55.9	31.4	29.8	43.8
	II	41.7	51.0	42.0	28.6	41.7	44.8
	III	44.7	56.2	40.8	21.8	42.0	47.0
	IV	52.4	67.7	34.7	23.4	43.1	51.9

•Not reported in 1968.

Table C-8. Special Educational Needs by Institutional Type, Males and Females

Year	Institutional Type	Choosing A Major				Improving Writing Skills			
		Males		Females		Males		Females	
		Public	Private	Public	Private	Public	Private	Public	Private
1970	I	33.1	38.0	19.8	35.6	64.2	38.2	37.2	41.4
	II	33.1	29.7	26.8	27.5	52.4	36.6	40.2	33.2
	III	37.7	29.1	31.9	36.8	41.3	30.0	35.4	33.8
	IV	29.2	29.8	20.8	29.2	44.4	31.3	29.7	28.3
1972	I	36.8	34.7	26.4	45.0	54.4	32.3	38.2	40.9
	II	36.2	33.4	31.5	34.0	50.[illegible]	35.3	39.9	33.6
	III	38.0	32.8	36.1	37.1	3[illegible]	30.7	33.3	32.1
	IV	33.5	30.2	37.2	29.3	45.[illegible]	32.3	30.6	29.5

Table C-9. Need for Financial Aid, Males Only

Year	Institutional Type	All Through College		Last Three Years		Never	
		Public	Private	Public	Private	Public	Private
1970	I	33.9	57.0	16.3	15.5	49.7	31.4
	II	57.5	57.5	9.9	11.4	32.6	31.1
	III	44.4	57.7	13.4	9.5	42.2	32.6
	IV	49.4	52.9	11.5	9.7	39.1	37.4
1972	I	36.6	61.2	15.7	11.3	46.7	27.4
	II	56.1	57.6	10.3	11.6	33.7	30.6
	III	47.1	59.7	12.1	9.1	40.6	31.1
	IV	47.7	50.5	11.6	9.9	40.6	39.5

Table C-10. Need for Financial Aid, Females Only

Year	Institutional Type	All Through College		Last Three Years		Never	
		Public	Private	Public	Private	Public	Private
1970	I	37.6	59.2	15.0	11.2	47.3	29.6
	II	58.3	60.6	9.5	9.2	32.2	30.2
	III	52.2	64.1	10.3	7.9	37.4	28.0
	IV	51.7	52.4	9.6	7.1	39.7	40.5
1972	I	40.2	65.1	13.5	9.0	46.3	25.6
	II	58.7	61.1	7.4	8.6	33.9	30.2
	III	52.2	63.5	9.3	7.8	38.5	28.7
	IV	51.1	51.9	9.4	8.0	40.4	40.1

Table C-11. Years Out of High School, Males and Females

Year		Just Out of High School				One or More Years			
		Males		Females		Males		Females	
		Public	Private	Public	Private	Public	Private	Private	Public
1970	I	84.3	90.2	86.4	91.2	15.7	9.8	13.6	8.8
	II	92.3	92.2	95.5	95.0	7.7	7.8	4.4	5.0
	III	93.4	92.1	95.6	96.1	6.6	7.9	4.3	3.9
	IV	95.1	96.5	96.6	96.2	4.9	3.4	3.4	3.8
1972	I	83.5	86.0	86.1	88.6	16.5	14.0	13.9	11.4
	II	90.2	92.0	94.3	94.7	9.8	8.0	5.7	5.3
	III	92.4	92.9	95.6	96.0	7.6	7.1	4.4	4.0
	IV	94.3	95.5	96.1	97.5	5.7	4.5	3.9	2.5